WHOLESALER'S SALESMAN

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330 West 42nd Street, New York 18, N. Y.

Director of Circulation:
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From .....

.....

To .....

.....

Signed .....

INT IN BINDING

WHEN OUNCES FEEL LIKE POUNDS

*Reg. U. S. Pat. Office

1230 SIXTH AVENUE
ROCKEFELLER CENTER, NEW YORK

UNITED

TIMES and TRENDS

Your Convention IN PRINT Black type on white paper never can nor ever will supplant a real old fashioned convention. The hearty handshakes, the banter and laughter, the man-to-man and eye-to-eye talks, the cross-the-table arguments and discussions, the actual rubbing shoulders with the crowd, the clashing or meeting of minds on the floor of the convention or in the committee meetings, all those big and little factors combine to make a real convention—living a valuable, enjoyable and instructive experience. There is no substitute for actual contact with other human beings.

That being the case, a convention IN PRINT can do no more than supply the audience with the information, data, facts and opinions that might have been presented at a real convention, and that we believe has been done in this WHOLESALER'S SALESMAN'S Second War-Time Convention IN-PRINT issue.

As a matter of fact, we doubt whether the "speeches" herein "delivered" could have been crowded into a full week of 3-sessions-per-day conventioning, and we know very well that many of those whose "speeches" we are "delivering" here to the entire industry would not have been either able or willing to make their personal appearance at a real convention.

We believe that every "speech" that we have the privilege of "delivering" for its author in this issue is very much worth reading and studying. You will find genuine help and guidance, many timely warnings, much valuable advice contained in the pages that follow.

Read this issue thoroughly and then tell us frankly what you think about it.

★

Cover Since the war-time convention recorded in this issue had to be an IN-PRINT affair it occurred to us that nothing could be more appropriate for the cover of such issue than an airview of the city and building in which this IN-PRINT convention went TO PRINT.

Hence here is an airview of the lower part of Manhattan Island in the City of New York, with the McGraw-Hill Building in the foreground. The publishing offices of WHOLESALER'S SALESMAN are located on the thirtieth floor.—Come up and see us when you are in town.

★

Bazooka Nearly a year ago the U. S. Army entertained a group of editors and among the new and secret weapons and projectiles then shown and demonstrated was a BAZOOKA.

Since then of course, but only recently, the Army has released pictures and some details of that strange anti-tank weapon which, needing only two men to handle, packs such a tornado of destruction that tanks, pill-boxes, buildings and bridges will wither under the fire of its deadly rocket-propelled projectile.

Interesting point is, that Philco Corporation just let out the news that it makes those projectiles.—Some jump—from radio sets to BAZOOKA shells.

★

Railroad Records When you read advertisements, where railroads urge that all unessential or avoidable travel be eliminated, be sure that they are not fooling.

Remember that, along with the rest of us, during the 1930's, railroads did not have enough prosperity to build up backlogs of funds or equipment for future demands or emergencies. Neither they nor we could have anticipated what has happened since.

Yet the railroads have met all the gigantic tasks that the war emergency has pitched into their lap, and figures recently released give an idea of what those talks involved.

In 1929, when everybody had money to burn coach passengers were carried 11,200,000,000 miles, but—in 1932 the total is expected to hit nearly FIFTY BILLION miles, and that does not include commuter's mileage. Pullman travel in 1943 is expected to be more

(Continued on page 15)

Are Your Suppliers Backing You Up?

They make your job easier by advertising the lines you sell in Electrical Contracting

Ever stop to think how the advertising of manufacturers in Electrical Contracting is helping *you* . . . making your difficut job easier?

Maybe it's one of the things you have always taken for granted. If so, take a moment now to visualize thousands of electrical contractors and industrial plant men — your customers and prospects — turning over the pages of Electrical Contracting each month. The editorial material *and advertising* helps them . . . and it helps you too. Like this . . .

Editorially, E.C. explains government restrictions, priorities, etc., so that your customers are better informed and their dealings with you are less complicated.

E.C. gives sound up-to-the-minute information about wiring methods, practical maintenance and other vital data . . . thus creating an understanding and acceptance for new procedures and new products.

And here's how the advertisers in Electrical Contracting help you . . .

They reach the "hard to see" man; get behind the outside office to the man who has the real say, and sell him on your suppliers' lines.

They tell your customers about new products available, and of substitute products and materials which can be used in this emergency.

They build acceptance for the products wholesalers sell, thus cutting your selling time and simplifying your job.

In a hundred other ways E.C. helps wholesalers. And the more of *your* suppliers who are represented, the more you will individually benefit.

Be sure the manufacturers you represent tell about their products in Electrical Contracting — how they are made, how they can be used and where they can be bought. It's "salesmanship in print" that will pay out for you in terms of easier selling and servicing — increased sales volume and profit.

The Magazine

A McGraw-Hill Publication
330 West 42nd Street, New York 18, N. Y.

(*Continued from page* 11)

than double what it was in 1929. Figures on freight tonnage carried are equally staggering.

All this, to make the point that the railroads really need the full cooperation of the public in avoiding as much traveling as possible.

★

Blood Money From Pittsburgh an Associated Press dispatch reports that a suit against the Pittsburgh Electrical Contractors Association and forty-one electrical contractors was settled for $260,000, with the approval of the court. A Pittsburgh lawyer, Morris L. Marcus, who was the informer, will get half of that money.

We wonder how much good fortune a man can have with money obtained by such process, when every dollar so gotten carries with it the curses of the many who were betrayed.

★

Backlog For Boom Figures released recently by George Jaszi of the Bureau of Foreign and Domestic Commerce, U. S. Department of Commerce seem to supply some solid foundations for that mythical "Backlog of Buying Power," so frequently referred to in recent months when predictions of a big post-war boom are voiced.

The report says that first six months 1943 national income was at the rate of $143 billion, and that Americans will have nearly $37 billions left over at the end of this year, even after they have paid their taxes.

Add to that 1943 contribution to the backlog what already had accumulated in 1942, 1941 and in fact ever since the Defense Program was launched, then pile on what will be added between the end of 1943 and 194X, when the end of the war will bring full availability of home appliance, building materials, other consumer goods, add to all that those Billions of dollars that were in savings accounts, building loan and other reserve accounts, and you will really have a backlog of boom-making proportions.

Meanwhile it's important to cooperate fully with the government in any effort that is designed to kill any threat of inflation, so that when victory releases the materials with which to make the goods that consumers will want to buy, we can have the boom with all the healthy trimmings but without the tragedy of inflation.

★

Tip On Electronics Wholesaling Since we have carried certain editorial material on the subject of electronics, and more so since we began publication of "A Primer of Electronics", numerous manufacturers have come to us, asking just how the electrical wholesaler fits into that picture.

Significant was the fact, that some of those manufacturers, who had been in radio or allied fields before the war openly doubled the ability of electrical wholesalers to do a job, but, after some discussions of the problem most of them agreed that he should have a chance.

However there was full agreement that no electrical wholesaler would stay in the electronics field very long, unless he did one of two things:

Either: Establish an entirely separate department for radio, radio parts, tubes, sound, electronic devices and allied products AND PUT AN EXPERIENCED TECHNICIAN IN CHARGE, with such merchandising and technical staff as volume warrants.

Or: Buy out the best local radio parts and tube jobbers and move the former owner and his whole outfit, lock, stock and barrel into your warehouse as a separate department and then extend the lines handled and sales and service facilities where needed.

There's The Ticket, and knowing the electrical wholesaler intimately and also knowing something about what's coming in radio, sound, television, electronics applications, WE AGREE FULLY, that one or the other of the two plans outlined must be adopted if we want to cash-in. Otherwise this great opportunity will slip through our fingers—never again to knock on our door.

★

Let Them Eat Cake That's exactly what one wholesaler's expediting clerk—a girl of course—does to get her orders with certain suppliers pushed ahead for quicker delivery.

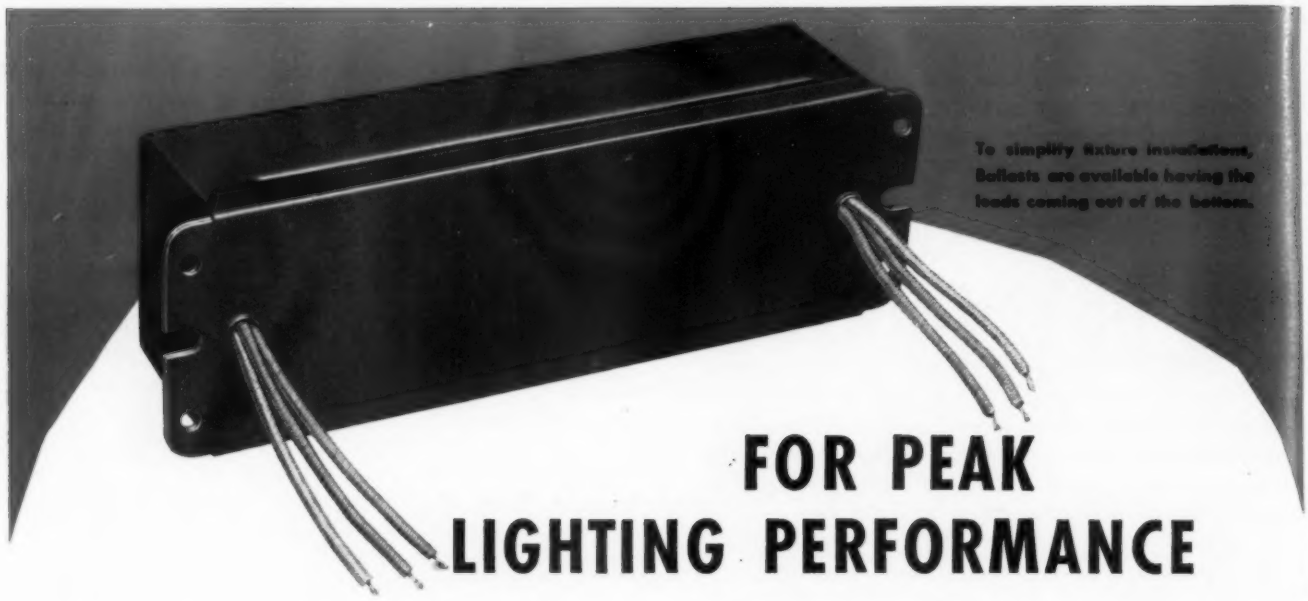
It all started innocently enough when she telephoned to thank the order clerk of one manufacturer for some exceptional service and added "Maybe I can do something for you sometime." Quick as a flash came back the reply: "Yeh—you can bake us a cake."

Of course, the fellow at the other end of the wire had no thought of getting a cake but, a few days later up drove the wholesaler's truck and delivered a nice juicy layer cake.

Well, after that our girl expediter sure did get service, and whenever she thought that there were signs of a let-down, over went another cake. Tried on other obstinate clerks of slow-shipping manufacturers a cake also was found to work wonders.

And now we wonder, whether the world's history might have been changed if Marie Antoinette had really "Let Them Eat Cake."

EDITOR



To simplify fixture installations, Ballasts are available having the leads coming out of the bottom.

FOR PEAK LIGHTING PERFORMANCE

● The satisfactory performance of fluorescent lighting depends to a great extent on the Ballasts,—and at Jefferson Electric the importance of this unit is well recognized,—and design, selection of all materials, construction and expert craftsmanship all contribute to the reliability for which transformers and ballasts bearing the Jefferson Electric mark have long been known.

Where groups of fluorescent lamps are installed, great savings in copper and other metals are possible by using Multi-Lamp type Ballasts. Costs are cut and installation time reduced. Four 100-watt lamps, for example, served by one Four-lamp Ballast saves 50 per cent of the cold rolled steel, silicon, and copper required for two two-lamp 100-watt Ballasts. Too, power losses are reduced, and since four-lamp Ballasts may be used on 250-280 volt circuits, conductors can be smaller than for 110-130 volt circuits, another saving of copper.

Jefferson engineers introduced Ballasts with bottom leads to facilitate installation on shallow wiring channels, available in the popular capacities,—two- and three-lamp 40-watt; two- and four-lamp 100-watts.

Write for Bulletin 421-FL which carries full data. Recommendations of our engineers are yours for the asking. . . JEFFERSON ELECTRIC COMPANY, Bellwood, (Suburb of Chicago) Illinois. Canadian Factory: 60-64 Osler Avenue, West Toronto, Ontario.

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CERTIFIED E·T·L SPEC NO 6 HIGH P.F.

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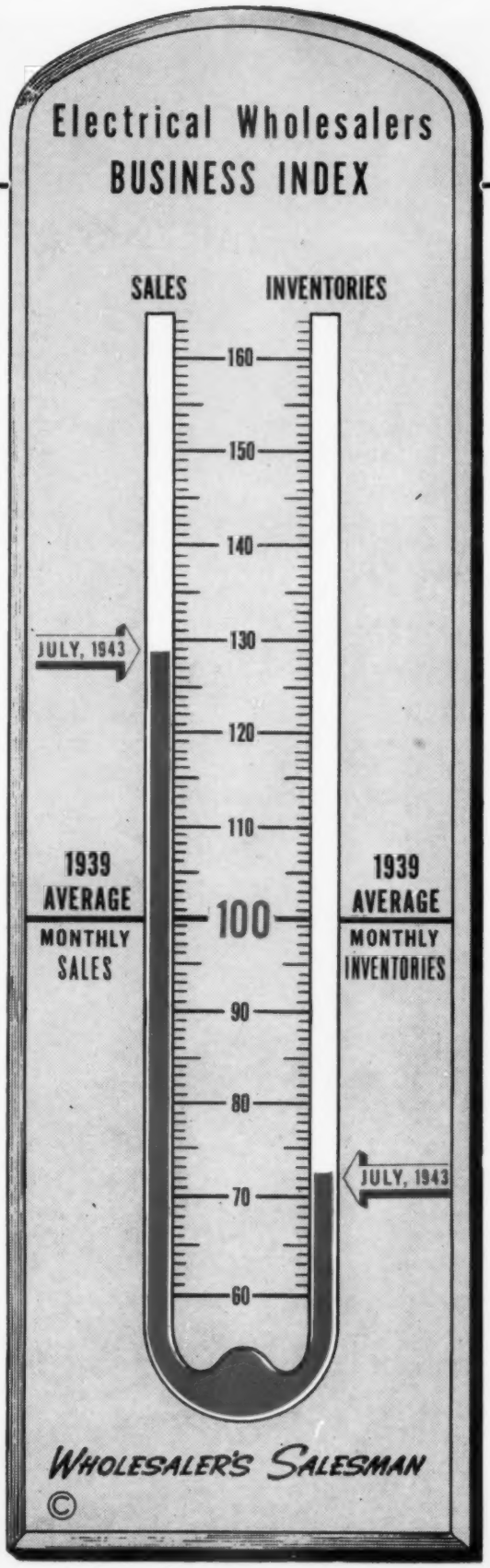
BALLASTS

For Fluorescent Lighting

Distributed through wholesalers



WHOLESALER'S SALESMAN

Business Index

For the Month of July, 1943

SALES Sales of electrical goods by wholesalers in July held up to the fairly high level of 128 percent of the 1939 average monthly sales.

However, probably as a result of both the mid-summer seasonal slump in sales, and the effect of the generally-reported summer slow-down in demands for electrical goods in war production, this average sales volume for July was 5 percent below that reported for June.

Another factor that must be considered as having a bearing on this decline, is the sales volume reported from the non-industrial and agricultural states, which, as described more fully in the regional analysis, registered far below the report for June.

INVENTORIES In spite of the continued shortage in critical materials and the tightening of inventory control, the inventories of electrical wholesalers in July held up at 97 percent of the previous month's level, a point which represented 72.2 percent of the 1939 average monthly inventories.

However, even that 3 percent decline came as a surprise after the record of the last two months when wholesalers had reported average inventories equal to or above each previous month.

COLLECTIONS Collection percentages in July, as averaged from the reports of electrical wholesalers throughout the country, were 76 percent. This is one point above the revised collection percentage reported in June, and 5 points above the collections of the same month of 1942.

Accounts receivable were reported as being down 3 percent from the previous month, and down 28 percent from the volume of accounts receivable recorded in July 1942.

SOURCE The figures we use as basis for these monthly comparisons of performance in the electrical wholesaling field are collected and compiled by the Bureau of the Census of the U. S. Department of Commerce.

Accuracy: + or – 6 inches

..How "*See-ability*" is helping skilled workmen produce range finders of amazing accuracy for the U. S. Army

They said it couldn't be done!

No sir, no one could turn out range finders, eyes for our army's artillery—as accurate as it wanted them—*as fast as it must have them!*

But that was a long while ago—before Pearl Harbor!

Today, Industry is in quantity production on range finders almost *absolute* in accuracy.

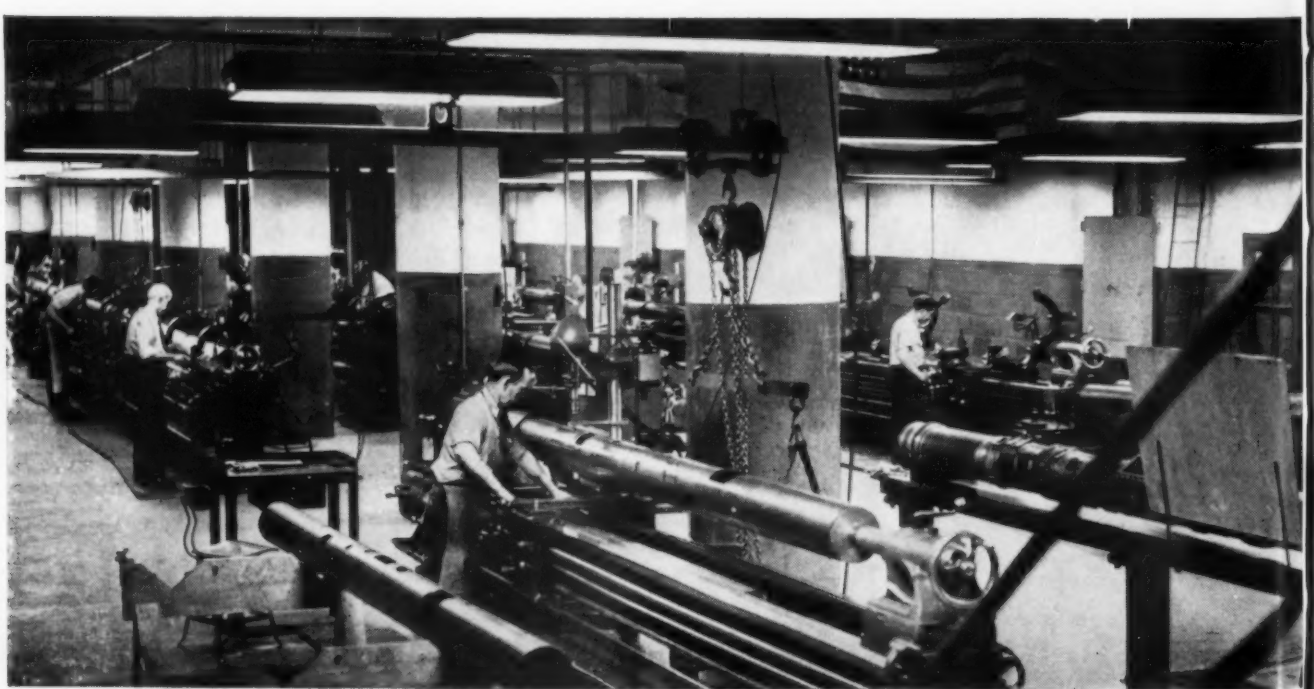
Today, thanks to American *know-how,* gunners all over the world, smack their targets right on the nose!

"See-ability" through better, more scientific lighting helps make this miracle possible. It is helping make high speed precision machine work a routine matter. It is helping bring well-nigh superhuman skill to human eyes and fingers.

That is why millions of Westinghouse Mazda Lamps are ear-marked to bring "See-ability" to this and other vital war work.

More light for war plants! In many factories, equipment is showing the strain of continuous, round-the-clock production. Especially lighting systems! You can help these plants get more light. Send for free booklet, "See-ability for Indoor Eyes." It is full of valuable suggestions. Westinghouse Electric and Manufacturing Company, Lamp Division, Bloomfield, N. J. *Plants in 25 cities . . . offices everywhere.*

KEEP YOUR DOLLARS FIGHTING . . . BUY WAR BONDS



s at better than 5,000 yards!

WHOLESALER'S SALESMAN BUSINESS INDEX

REGIONAL ANALYSIS

JULY, 1943

THE distribution of wholesalers' sales among the nine geographical regions in July showed that the five percent drop resulted mostly from unusual lows in three of the areas, Nos. 7, 8 and 9.

One of these regions, No. 7, is a non-industrial area, mostly agricultural, and is one of those which in the last few months has shown considerable activity. Another, No. 8, is essentially non-industrial, and for several months has been running behind the national average figure on sales. The third, No. 9, is one of the largest war-industry centers, usually far ahead of all the regions in its sales gains.

Such a variation, not in keeping with the fluctuation of other regions, would indicate that strictly local conditions had caused these declines. For example, region 7, a predominantly agricultural area, may have experienced a drop in sales as a natural reaction to the heavy buying of those previous months when farmers purchased MRO supplies in preparation for one of their heaviest farming years. Then it is possible that in region 9, which includes the states of California, Oregon and Washington, such local conditions as the reported slowing-down in aircraft production, but particularly the continued and drastic falling off of new construction for the Army, Navy and Maritime Commission, were influencing factors.

Considerable variation in the flow of electrical materials from manufacturers to wholesalers in the nine regions is evident in the inventory report for July. Although the Middle Atlantic, East South Central and Pacific regions made out well with inventories at 100 percent or more of the June level, regions 1, 7 and 8 dropped off considerably from their June showing.

The South Atlantic states reported inventories at 90 percent of their level of the previous month, but these states still had an inventory condition second-best among the regions compared with their inventories of the same month of 1942.

Figures in this table apply to the geographic divisions as outlined and numbered in red ink on map above

SALES July, 1943 Compared in % with		Trading Region (See Map)	INVENTORIES July, 1943 Compared in % with	
June 1943	July 1942		June 1943	July 1942
96	103	1	96	50
100	79	2	100	50
99	71	3	95	58
96	66	4	99	49
95	73	5	90	58
93	54	6	101	53
87	67	7	94	44
87	57	8	95	47
86	76	9	104	62
95	**75**	For **U. S. A.**	**97**	**54**

Free Enterprise

WE MUST ACT TO PRESERVE IT!

☆

LIKE a leaf floating downstream, we are being carried along toward a new and uncharted economy. What this new economy will be like will depend, to no small extent, upon what industry does or fails to do during the coming months. Time is short; in fact, we may suddenly find ourselves standing on the threshold of a peace economy with our war boots still on our feet.

While bending every effort to win the war, we cannot afford to be caught unprepared for the peace. As Prime Minister Churchill said at Harvard, we are "bound, so far as life and strength allow and without prejudice to our dominating military task, to look ahead to those days which will surely come, when we shall have finally beaten down Satan under our feet and find ourselves with other great Allies at once the masters and the servants of the future." Unless we do look ahead, there is danger that we may become neither the masters nor the servants, but merely the victims, of the future.

The war has quickened our ailing economy and opened our eyes again to the possibilities of peace-time plenty. But it has also brought great dislocations of labor and capital; it has led to abnormal patterns in prices and income distribution; and it has created inflationary pressures with enormous potential powers to injure or to help us in the transition from war to peace.

The pattern of life in postwar America will be just what we make it. All of us will have a hand in shaping that pattern, but business men will have a special responsibility in the reconstruction. As employers of labor and capital and as enterprisers assuming the risks of new ventures, they will have to plan and carry out the conversion from war work to full peace-time production. Because of their key role, business men have a special opportunity to discover, and to help others to understand, the conditions which are necessary if they are to do their job satisfactorily.

This is a narrow view of postwar problems but it is a central view, because no one condition is more vital to the health of the world than a high level of production and employment in the United States. We cannot hope to lead the world out of economic chaos if we fail to put our own house in order. If we fail to adjust our domestic economy, we may destroy Adolf Hitler; but we will not destroy the germ that breeds "Hitlers." If we do not maintain the production necessary for supporting a large volume of imports and exports, then the plans for international monetary stabilization, for good relations with our neighbors, for rehabilitation of stricken countries, and for strengthening the democratic bulwarks against dictatorship are all likely to come to grief. We must demonstrate our capacity for world leadership, or be content to follow the leadership of others.

The prospects for achieving a sound and vigorous economy in the United States are not so good as to warrant complacency on the part of men genuinely interested in free enterprise and the political freedoms incident to it. We have yet to find means to utilize our vast and abundant resources for the good of all. We have yet to learn how to keep men from the terrible experience of unemployment and the fear of want which makes them willing to sacrifice freedom and opportunity for almost any promise of security. We have yet to reconcile the conflicting interests of labor, agriculture, and business so that they can work together effectively. We have yet to learn how to check the fever of inflation and cure the palsy of depression.

When we were attacked at Pearl Harbor, we realized our physical peril immediately and united in a tremendous common effort against the enemy. The onset of economic perils is less obvious. No bombs will signal the deterioration of the private enterprise system, the extension of regimentation, the further control of busi-

ness by government, and the concentration of political power in less and less responsible hands. If these things should befall us, they will come insidiously while we are preoccupied with self interests and oriented by popular misconceptions. If the freedoms of the individual shrivel as the state grows in power, it will be because the individual is too indifferent or complacent to concern himself seriously with economic problems. If our people are misled by false prophets and demagogues, it will be because business men did not understand economics, because scholars were too ignorant of practical affairs, and because we failed to produce economic statesmen of sufficient stature for the task in hand.

Thinking is hard work. Thinking about things outside our personal experience, about economic processes that are broader and in some fundamental respects different from buying and selling or running a business – is strenuous mental labor. Thinking straight about problems that are beyond our personal and immediate status and our pocketbooks, thinking about problems that involve nation-wide production, nation-wide employment and nation-wide buying power – in other words the operation of our entire economic system – involves real self-discipline. Yet there is no other way to safeguard our freedoms. We cannot rely on trial and error; tinkering takes too long; social experiments which turn out wrong can be undone only at great cost – if at all. If we proceed blindly, we shall flounder into an economic and political morass from which we cannot escape.

We floundered badly all through the Thirties, until the war lifted us temporarily to higher ground. When the war boom is over, we shall be back floundering worse than ever unless we find a solid road along which to proceed.

America has grown rich and strong under a system of political and economic freedom. Opportunity and the necessity of self-reliance have brought forth great accomplishments. The hope of profit and the spur of competition have urged men on to find new and better products, new and better methods, and to risk their savings in pioneer investment. Never has a country achieved so high a standard of living and afforded so large an opportunity for the individual man and woman. It is not surprising that some distinguished business leaders, looking back over their own experience, tell us that everything will be all right if only there is "less government in business."

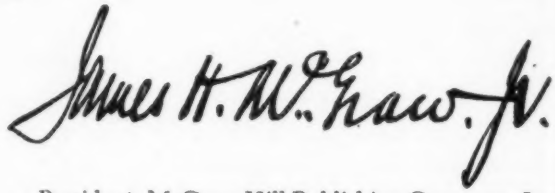
I wish the solution were as simple as that. However this is only part of the answer. It is becoming increasingly clear that industrial capitalism as we know it contains within itself certain fundamental weaknesses which can lead to its destruction if they are not counteracted. No democracy can survive when twenty to thirty per cent of its workers cannot get jobs. That happened here in the Thirties. For years on end, despite fumbling efforts at recovery one out of every five workers was denied a chance to earn a living in private business. We shall never again have such mass unemployment as occurred in the bottom of the Depression, because the government will take it upon itself to create jobs if business cannot offer them. Whenever that happens, however, the area of private enterprise will be reduced and that of government will be expanded – and the concentration of political power will be increased. This is the challenge we business men face today, and ours is the first opportunity at finding the solution.

The crux of our economic problem is unemployment. Unless there are jobs for ninety to ninety-five per cent of those who are able and willing to work, there will be widespread fear and lack of opportunity, which will drive labor unions, agricultural groups, and business interests to take self-protective measures. Such measures are certain to restrict production, stifle progress, and imperil our democratic way of life. Not all our problems will automatically be solved if we learn how to avoid mass unemployment, but they will at least then have a good chance of solution.

And so American businessmen face a great responsibility! We will have to find the answer to a great many momentous questions. We will have to delve into problems that cannot be solved by precedent.

Looking backward to these times, future historians are likely to say that here we Americans stood at the crossroads and, consciously or not, made our choice between a system of private enterprise and personal freedom and a system of collectivism and regimentation.

It is particularly appropriate, therefore, as the problems of our time take shape and as events rearrange their order and importance, to appraise the steps we are taking and point the way we are going. It is my plan to present such analyses from time to time to the one-and-a-half million readers of McGraw-Hill publications.



President, McGraw-Hill Publishing Company, Inc.

WHOLESALER'S SALESMAN NEWS

Wholesalers Declared Essential In Chicago, Los Angeles Areas

Application through Chicago association head gets action from regional director. Southern California WMC director includes distributors of electrical supplies and equipment in list of activities essential there.

LONG-AWAITED action to have electrical wholesaling declared as an "essential occupation" has been obtained in two local areas within the last month. Electrical wholesalers were declared "locally needed" in the Chicago area in a special declaration from the Regional Director of the War Manpower Commission, and in the Southern California area, the function of electrical wholesaling was included as an essential activity.

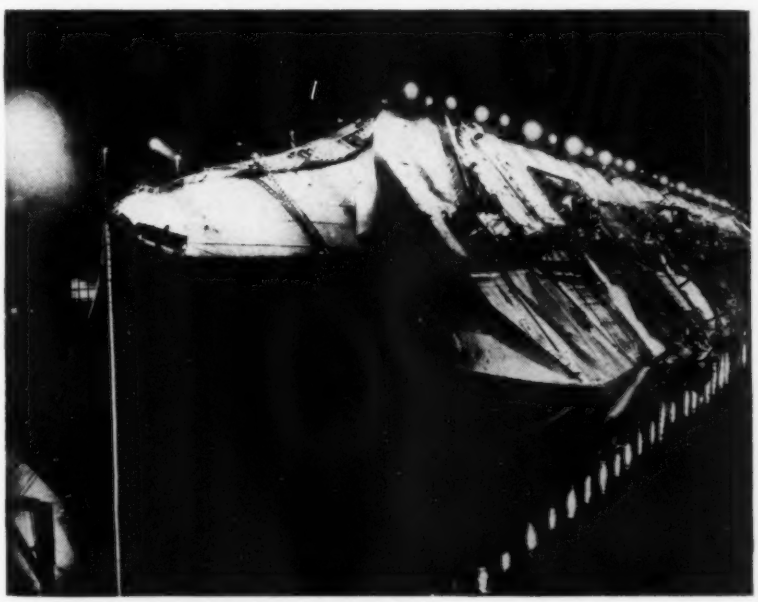
Hoped by many to be the forerunner of more declarations throughout the war-activity areas of the country, such a classification is considered to be a key to the most effective method of obtaining a status as "essential"—that is, by local action of a group of wholesalers or a local association through application to the regional director of the War Manpower Commission.

A. J. McGivern, managing director of the Chicago Electrical Wholesalers Association, acted as the wheel horse in the efforts by which the ruling was obtained in that busy war-plant area. Mr. McGivern made application to the local area director, covering in his appeal a resume of the number of contracts for munitions and supplies placed with concerns in that area plus a detailed account of the part that electrical wholesalers take in the functioning of those war plants.

He emphasized that the electrical wholesalers were complying with all policies regarding the utilization of all employees at their maximum skills, also that experience has shown that it takes at least five years time for a person to learn the construction and uses of all the electrical items which the wholesaler is supplying constantly to war industry and war contractors.

In his statement notifying Mr. McGivern of the WMC's declaration, the acting deputy director included statements regarding the obligations of those industries granted "essential" status. He explained that the WMC would expect that the wholesaling firms had taken steps to meet the standards set forth in the WMC Field Operating Instructions No. 15, and that the WMC would understand that the firms would comply with all statements made in the applications. The deputy director stated also that the War Manpower Commission would cooperate to assist the wholesalers in maintaining their service.

On August 6th, the warehousing and wholesale distribution of electrical supplies and equipment in the Southern California Area were declared essen-



ELECTRICAL WORK HELPED in the salvaging of the Lafayette (formerly the Normandie). Thirty-four floodlights on 30-foot centers illuminated the area between the dock and the ship. Forty-six 1500-watt floodlights illuminated the area of operations. General Electric Photo.

At THIS Convention

MEET OUR PRODUCTS
MEET OUR SALESMEN

ATLANTA
Geo. R. Koeln & Co.
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DALLAS
Jack Morgan
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DETROIT
Block Brothers
13534 Woodward Ave.

LOS ANGELES
J. J. Schaller
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NEW ORLEANS
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823 Perdido St.

NEW YORK
Harry J. Levy
11 Park Place

OAKLAND, CALIF.
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222 - 29th St.

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Leonard Bleiman
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COLUMBUS, OHIO

PIPE COUPLINGS · PIPE NIPPLES · ELBOWS, 90° AND 45°
RUNNING THREAD PIPE · GOOSENECKS · WALLPLATES

tial in that area, and thereby subject to the privileges and the responsibilities of such a classification. Employees in this industry were instructed not to change their employment except in accordance with provisions of the Southern California Employment Stabilization Plan. The United States Employment Service was directed to recruit and supply employees for the electrical wholesalers.

A. J. McGivern, managing-director of the Chicago Electrical Wholesalers Association obtained action through the regional director of the WMC to get "essential" status for wholesalers in the Chicago Area.

Electrical Leagues' Speakers Gage Post-War Sales Prospects, Want Increased Local Promotion

Foreseeing large demands for home appliances, commercial and industrial lighting and other equipment, speakers stress value of local sales building. W. A. Ritt elected president.

APPROXIMATELY 50 league managers and others from every section of the country were welcomed by President John A. Morrison to the Eighth Annual Conference of the International Association of Electrical Leagues, when it convened at Cincinnati for two days September 16-17.

The meeting was opened with discussions on important current activities which included maintenance of service and repair facilities, the trading post plan for appliances, home economic groups demonstrations, dealer counselor service, field survey for marketing electrical products, unity through periodical meetings, wiring service to home owners, merchant builders and home financing agencies, educational meetings for E. M. E. groups and public relations.

Speakers heard on the first day's program were J. Clark Chamberlain, of San Diego; W. D. Shaler, of Pittsburgh; A. H. Kessler, of Minneapolis; C. H. Christine, of St. Louis; A. E. Schanuel, of New York, and Sheridan Taylor, of Philadelphia.

Session chairman on September 16 were J. S. Bartlett, managing director, The Electric Institute of Washington, D. C. and W. A. Ritt, secretary-manager, North Central Electrical Industries.

Mr. Christine acted as chairman of the morning meeting on September 17, which began with the panel discussion on the post-war residential market and was concluded by a discussion by R. T. King of Trenton, N. J. of "New Opportunities in the Post-War Commercial Market."

Mr. King foresaw building of commercial structures for a specific business. He characterized wiring as the "bottle neck" which limits the sale of additional equipment and service and stated that it seemed to become obsolete faster than anything else in commercial building.

"Air conditioning will become more general," he said, and "a vast field for lighting exists in the commercial market which was barely scratched before the war. This will require a new approach by selling lighting to the individual on a direct and human interest basis rather than on that of engineering and design."

"Widespread acceptance for the frozen food locker," he said, "may be anticipated as a new commercial service, with heavy demands for refrigeration and lighting, greater probable use of infra-red lamps in drying, and many revolutionizing applications of radio frequency in commercial cooking."

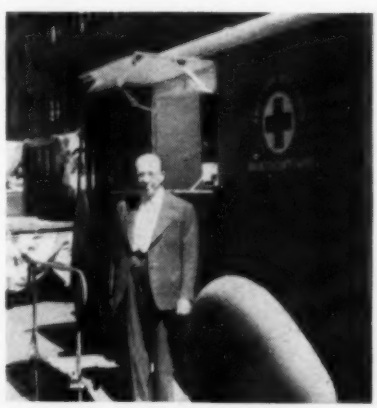
During the panel discussion on "Post-War Considerations of the Residential Market" Arthur Hirose, director of Market Research, *McCalls* Magazine, and L. E. Moffatt, editor, *Electrical Merchandising* agreed that the mechanization of millions of new post-war homes will present the entire

Canteen Honors Late Wholesaler-Soldier

At impressive ceremonies in New York recently, the memory of Bernard Soffer, a former member of the G. & G. Electrical Supply Co., who was killed on active duty with the armed forces, was honored by the presentation of a Mobile Canteen to the Red Cross. The employees of G. & G. Electrical Supply and other friends in the industry had raised the funds to purchase the canteen.

The presentation was made in front of the wholesaling house at 138 West 25th St. With the cooperation of the Police Department, the street was blocked off to provide room for more than 300 friends of Soffer who attended. G. V. Weir, managing director of the Eastern Electrical Wholesalers Association made the presentation in the name of the employees. Taps was sounded by a bugler of the Second Service Command, U. S. Army, who was accompanied by a squad of soldiers.

Bernard Soffer entered the Army during the early days of the Selective Service Act. He was sent overseas early in 1942.



Gabriel Soffer stands beside the mobile canteen dedicated to his son by friends and fellow wholesalers.

FIFTY YEARS

OF QUALITY IN THE

MANUFACTURE OF

ELECTRICAL EQUIPMENT

FOR CIRCUIT PROTECTION

★ 1893-1943 ★

SHAWMUT IS

THE WORD

FOR FUSES

THE CHASE-SHAWMUT COMPANY

NEWBURYPORT, MASSACHUSETTS

electrical industry with the greatest opportunity in its history.

Although differing in their interpretation of the probable effect of some post-war factors, both speakers believed that, assuming the existence of a favorable economy resulting from sound planning, there was an excellent prospect for greatly increased sales of appliances and lighting in the estimated 9 to 13 millions of new homes.

On the question of reconversion, Mr. Moffatt pointed out that radios and lamps could be made available promptly, ranges probably in 2 to 3 months, and washing machines in an average of 3 to 6 months. Electrical refrigerator plants will require complete reconversion and could resume on limited lines probably after 6 months. Both Mr. Moffatt and Mr. Hirose agreed that the first post-war production will be of 1942 models.

Mr. Hirose also stated that the vast existing home market will offer WMC greater opportunities because of the fact that women will "shop" new homes and thus sell themselves on many types of electrical improvements.

The problem of increased outside competition in the electrical manufacturing field was not considered serious in view of the considerable time element involved for design and testing.

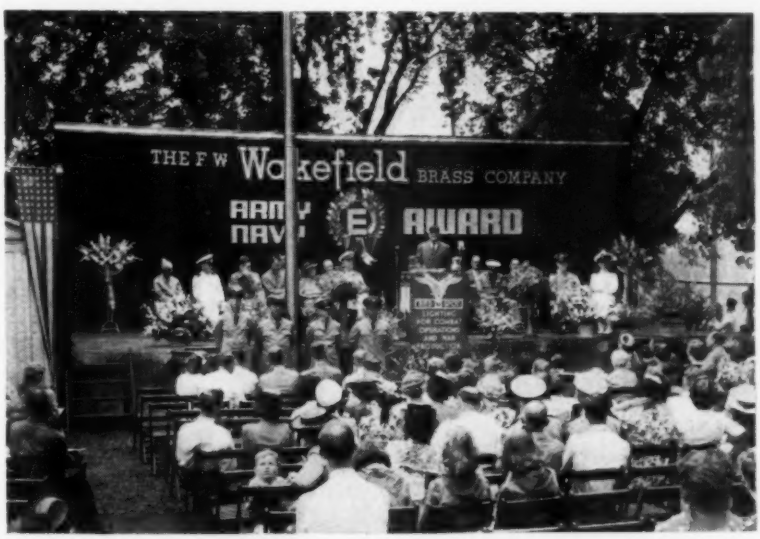
S. E. Strunk, of Cleveland, delivered the concluding address on "What to Expect in the Post-War Industrial Market," and he expressed the opinion that the application of electronics in the industrial field and infra-red drying will have very extensive post-war possibilities.

W. A. Ritt, secretary-manager, North Central Electric Industries (Minneapolis) was elected president of I. A. E. L. for the ensuing year at the business session which followed the conference. Other officers elected were: E. P. Zachman, business manager, Cincinnati Electrical Association, vice-president; Ralph Neumuller, executive vice-president, Electrical & Gas Association of New York, treasurer. O. C. Small was re-appointed secretary.

In addition to the officers already named, the Board of Governors will comprise H. P. Wilson, secretary-manager, Electrical Institute of the Tri-Cities (Rock Island); C. H. Christine, secretary-manager, St. Louis Electrical Board of Trade; J. S. Bartlett, managing director, The Electric Institute of Washington, D. C.; G. W. Austen, manager, Electric Service League, Inc. (Toronto); J. Clark Chamberlain, secretary-manager, Bureau of Radio & Electrical Appliances (San Diego); and V. W. Hartley, managing director, Pacific Coast Electrical Association, Inc. (Los Angeles). Mr. Morrison will serve on the Board of Governors as advisor.

More "E" Awards Granted To Electrical Manufacturers

SECOND "M" AWARD to Jenkins Bros. for continued achievement in the manufacture of valves for the U. S. Maritime Commission is noted with the addition of a second gold star to its "M" pennant. At the raising of the flag are: Bernard J. Lee, right, vice president of the company; James L. Dunn, left, assistant general manager; and a group of women employees composed of wives and mothers of men in service.



FIRST "E" to a manufacturer making only lighting fixtures was awarded recently to the F. W. Wakefield Brass Company of Vermilion, Ohio. The award from the Army and Navy was made for the company's outstanding production record in the manufacture of special equipment for the armed forces, plus a record of no rejections and less than 1 percent unexplained absenteeism. At the presentation of the award, at which Ward Harrison, director of engineering for the lamp department of General Electric, was master of ceremonies, were: Captain R. P. Schlaback, U. S. N., supervisor of shipbuilding and inspector of naval materiel for the Cleveland district, who presented the pennant; F. W. Wakefield, president of the company, who accepted it; and Lt. Col. Earl F. Baskey, Air Corps, U.S.A., who presented pins to the employees.

RW Insulation A War Casualty

Production of Type RW "moisture resistant" insulation, with the Underwriters' Laboratories label, was suspended at the end of August.

Because the insulating compounds for all listed makes of RW wire have contained large proportions of new rubber, the use of which was forbidden after September 1st, this stoppage in production was considered necessary.

In announcing this order, the Underwriters Laboratories, Inc., stated that as lead is not a critical material and return to the use of lead covered cables is necessary where wires must be employed under moisture conditions, its use seems to be called for until acceptable properties and performances of new insulating compounds not employing natural rubber have been established.

Canadian Wholesaler Appoints Sales Manager

VANCOUVER, B. C.—T. G. Wilson has been appointed wholesale sales manager for McLennan, McFeely and Prior, Ltd., at New Westminster, B. C., according to an announcement by J. T. Dryborough, manager of the New Westminster branch of that wholesale hardware, furniture and electrical firm.

Mr. Wilson started in this business with the Anderson and Lusby concern, which was later taken over by McLennan, McFeely and Prior. He has spent recent years traveling for the company.

Wholesalers Try Selling New Plastic Tubing

PORTLAND, Ore.—From a number of angles, as a replacement for strategic materials, and possibly in the future as a new, standardized product without priorities that the salesman can take out and sell in the old-fashioned way, and as a product that has almost unlimited sales possibilities, new plastic tubing is attracting the attention of wholesalers, and not a few are taking it on.

One Portland sales manager says that his method of promotion is to have all salesmen push it by personal calls worked in along with regular calls upon the larger war industries. On trips to and from these large plants salesmen take a certain amount of time to call upon every industrial plant, large or small—shops, garages, factories, service stations and all sorts of processing plants. They not only take orders in these places but study the plants as thoroughly as possible and ascertain possible uses for the product. The results of each call are written up in the form of a report, and once a week at the sales meetings, these reports are discussed and the information made available to all.

This new plastic tubing takes the place of copper tubing. It comes in standard sizes from 3/16 in. to ¾ in. in diameter. With it goes a complete line of molded fittings. All that it is necessary to do in applying them is to flange the tubing with an ordinary flanging tool.

The product, cheaper per foot than copper tubing, will meet most of the requirements of the latter, as regards bursting strength and temperatures. It will not withstand the action of all the chemicals that copper will handle but will handle certain ones that copper will not, so the score is about fifty-fifty on that point.

Ordinary bends are easily made at room temperatures. On special short bends, all that is necessary is to apply hot water or atmospheric steam, make the bend and when it is cool it stays in shape. If dented by rough handling or even pounded flat, it does not break and by the application of heat as above described can be brought back to shape. If it is desired to make complex shapes such as elbows, traps, nozzles, etc.

(*Continued on page* 143)

WAR IS HELL. These two photos show the transformation that has taken place in many electrical wholesaling establishments from coast to coast in two short years. At the top is the appliance display room of the Graybar Electric Co., Salt Lake City, as it appeared on its opening day. Below is the same room as it is today. In place of all the wonderful conveniences and luxuries available then are the grim, technical realities of the present . . . blueprints and specifications for the factories, air fields and government projects designed to prosecute the war. Sitting at the table in the bottom photo is D. H. Hutchinson, a salesman. Standing at the right is D. H. Capelli, formerly the sales manager, now the credit manager.

By Alfred Byers, *Secretary*
National Electrical Wholesalers Association

News Notes From N.E.W.A.

N.E.W.A. TO CAMPAIGN FOR SPECIALTY DISTRIBUTOR MEMBERS

Outstanding in the news of N.E.W.A. this month is the Association's decision to inaugurate immediately a campaign for bringing into the Association more specialty distributors from throughout the country. The effort will be patterned, to take full advantage of the experience gained by Managing Director Charles G. Pyle in conducting a most successful membership campaign among supply wholesalers, which has already increased the membership by more than 25 percent and it is still mounting steadily.

Emphasis now being directed toward the plans for increasing the number of specialty distributors and "Electronics" distributors in the association is considered both timely and desirable. The importance of the specialty distributor in normal times, and the extraordinary conditions with which war has made him cope, have been discussed at length in the most recent meetings of the Management Committee and of the Post-War Planning Committee. Definite association plans have evolved from those discussions. They will materially aid specialty distributors (and their hard pressed dealer customers) in the war months ahead and in the uncertain Post-War adjustment period to follow.

N.E.W.A. has included appliance merchandising activities in the association programs of activities ever since appliances, radio and allied products came into the market. It was a pioneer (if not the first pioneer) in advocating the "All Electric" kitchen. That goes back many years. N. E. W. A. therefore, has a long experience to draw upon in developing effective services to specialty distributors. That experience, however, has been but the groundwork upon which the present program has been constructed.

Going into detail about these plans here is hardly possible due to limitations of space. But, some of the objectives can be reported in order to indicate the scope and helpfulness of the program which has been arranged and is now being followed.

Contacts at Washington are to be increased in the interest of appliance distribution as a definitely organized economic function and to insure members being kept advised of developments affecting their present and future operations as those developments occur. No one, today, discounts the influence the Federal Government exerts on the operations of business. All fields of consumer goods are especially aware of that influence. The dissemination of current, dependable information about Washington's doings is regarded as an indispensable service to N.E.W.A. members, and one to be in no way curtailed.

This particular service assists Washington too. Information developed from the membership, as to consumer goods requirements for instance, will be transmitted to the particular governmental agencies concerned. Thus, the electrical appliance needs of consumers will be known at Washington, and allotments of material for manufacture can be gauged with those requirements in mind. N.E.W.A. already has performed a valuable service for WPB in exactly that manner, and production of some electrical items has been authorized.

N.E.W.A.'s Post-War Planning Committee has a very active Appliance Sub-Committee. A practical, widely known specialty distributor heads it up, namely, E. B. Ingraham, President, Times Appliance Company, New York. That committee has developed some sound, practical ideas for the specialty distributor's benefit after he celebrates V-for-Victory Day. The Association will serve as the medium for putting those ideas to work.

Some of the direct aids N.E.W.A. plans to provide the specialty distributor include: salesman's training data; operating cost studies; publicity and advertising regarding the indispensable economic functions performed by the specialty distributor for the manufacturer and the dealer and consumer; the cultivation of more constructive manufacturer-distributor relations to bring about mutual efforts in product design and merchandising; product and merchandising studies in the electronics field (one national survey already has been concluded and distributed to members); and well organized and attended forum sessions — at N.E.W.A. Conventions—to discuss current problems of the trade.

INDUSTRY ADVISORY COMMITTEE TO MEET AGAIN

The Electrical Wholesale Distributors Industry Advisory Committee will hold its next meeting at Washington on October 25th. The Committee met in Washington on September 16th when most constructive subjects in the Industry's interests were discussed.

The Advisory Committee has now held several meetings. Committee members individually have given up much valuable time and journeyed long distances without complaint about the personal inconveniences imposed by war conditions. They each have done so, too, entirely at their own expense. Every one of those electrical wholesalers surely is a credit to the great industry it represents.

N.E.W.A.'s EXECUTIVE COMMITTEE MEETING

Members of the Association's Executive Committee and Management Committee have been called to the Hotel Pennsylvania, New York, for a meeting on October 26-27th. All sections of the country will be represented, including the Pacific Division.

the rubber shortage doesn't affect this wire

HAZAKROME

SMALL DIAMETER BUILDING WIRE

AVAILABLE FOR WAR-PURPOSE — MAINTENANCE • REWIRING • NEW INSTALLATIONS

HAZAKROME is an approved synthetic insulation containing no rubber. Possessing practically all the desirable qualities of the finest rubber insulation, HAZAKROME also offers many features that rubber lacks — particularly non-inflammability and resistance to oil, moisture, ozone and atmospheric conditions.

Consisting only of copper and a thin layer of insulation, HAZAKROME wires are easier to handle, splice and connect than Type R wire. HAZAKROME is particularly useful for rewiring jobs, where its small diameter increases the capacity of existing conduit by as much as 2 and 3 times — thus eliminating the expense of conduit changes, plastering and redecorating.

With the use of natural rubber forbidden in the manufacture of wire for most commercial applications, HAZAKROME has become a timely and welcome alternate. Its use is permitted in applications where copper is allocated.

HAZAKROME wires fully meet the rigid safety requirements of the 1940 National Electrical Code. Write today for your copy of Bulletin 200 — THE HAZAKROME HANDBOOK.

HAZAKROME FEATURES—

- A complete range of sizes for both lighting and power-circuits.
- Resistant to moisture, oil, chemicals and flame.
- Smooth, glossy and lubricated surface — easy pulling.
- Available in non-fading, standard building wire colors.
- Chemically stable and long aging.
- Tough insulation — a tensile strength of 2000 lbs. per sq. in.
- Free stripping — easy to install.
- No outer covering required.
- Small diameter — permits greater conduit fill.

CONSIDER HAZAKROME FOR BUS-DROP CABLES TOO

Developed to meet the widespread use of bus-duct systems in factories, HAZAKROME Bus-Drop Cable will bring power to individual machines — *quickly* and at *low cost*. No conduit and no pulling is required. Ordinary squeeze-type armored cable fittings and porcelain hangers can be used. » » HAZAKROME Bus-Drop Cable consists of 3 stranded conductors, insulated with color-coded HAZAKROME, and three small stranded ground wires equivalent in cross-section to one power conductor. These are cabled with necessary jute filler, covered with tape and a final HAZAKROME jacket.

HAZARD INSULATED WIRE WORKS
DIVISION OF THE OKONITE COMPANY
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ARMY E NAVY

3422

HAZARD Electrical Wires and Cables

A Wholesaler Moves For Uniform Cash Discounts

Discussions about uniform cash discounts are as old as cash discounts themselves, and no one has ever proposed a workable solution. If the industry handled only materials made from a single raw material, the problem would not exist.

Instead, the products handled by electrical wholesalers involve a number of different raw materials such as copper, steel, rubber, cotton, etc., each of which is dealt with under varying rules of cash discounts, some so old that they represent a tradition.

Therefore, the establishment of a uniform cash discount would call for some change in the basic pricing policy on certain lines, and it is debatable whether under war conditions such changes are practicable.

Nevertheless, we are presenting Mr. Byrne's letter as an interesting new viewpoint on an old and knotty problem.

The EDITOR.

To the Editor
WHOLESALER'S SALESMAN
Dear Sir:

Lack of uniformity in cash discounts allowed to their customers, on the part of many manufacturers and wholesalers, has always been a costly time waster. Under present conditions, burdened as both are with excessive internal clerical work, maintaining two or three or a half dozen different cash discounts on different commodities or even on different types of the same commodity, as some do, constitutes more or less of an economic monstrosity.

A typical example of what I have reference to lies before me at the moment, an invoice from a wire manufacturer containing about a dozen items. In this invoice, I find three different cash discounts. They are 5 percent prox., 2 percent prox. and ½ percent 10 days. If a stop watch could be put on the checking time required throughout this one transaction, from the time the manufacturer's clerical department steps in and checks to see that the right discounts have been connected up with the right items; on through the wholesaler's office to see that the correct discount has been applied in each case as per the manufacturer's discount lists; to see that when the bill is paid no errors have been made in applying the various discounts; and then on the part of the manufacturer again, to see that we have made no errors in taking our discounts;—all this adds up to a tremendous waste of time as against a single cash discount, and when every item would carry that one or be net. The waste is then further added to by more frequent mistakes on account of the complicated set-up, made either by the seller or buyer, calling for correspondence to settle them.

Then the wholesaler starts in and does much the same thing with his customers, only his problem and that of his customers is more complicated, due to the many more lines and more thousands of items to deal with, calling for these routine checks. When credits are allowed, still another check must be made to see which cash discount, if any, is to be deducted, and so on and on.

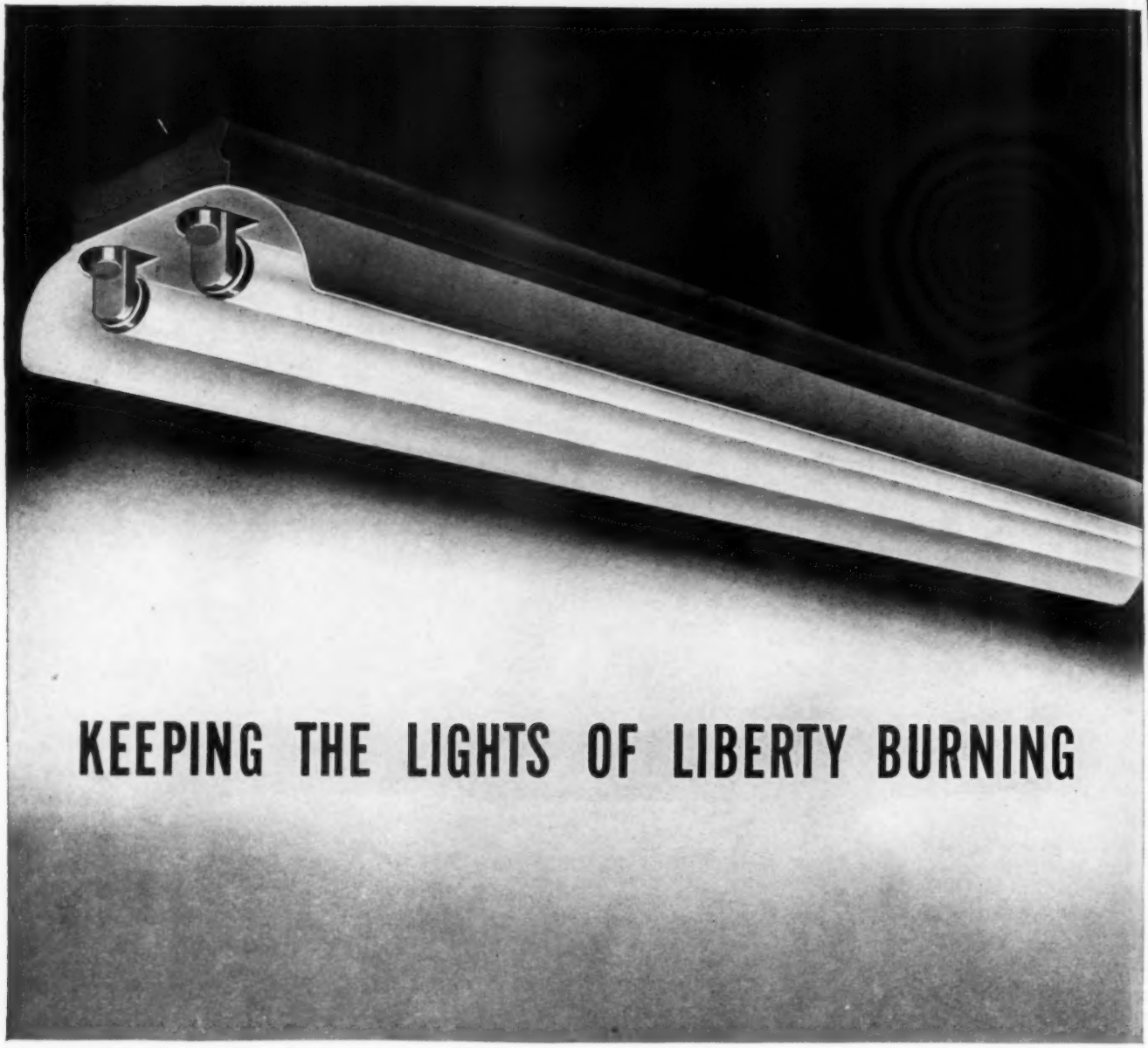
Fundamentally, what all of us are trying to do by means of the cash discount is to get the cash in promptly. It is worth money for us to do so, and we are willing to pass a percentage of it back to those who cooperate in this respect. But it is my opinion we are doing it the hard way. Doing things the hard way is right if it leads to perfection in method and better final results. But doing them the hard way just because of some system that "just grew" is wrong.

I venture the opinion that the evils of the indiscriminate, methodless cash discount can best be met by each individual company taking the bull by the horns and establishing a uniform cash discount on the products that it sells. I believe that companies starting this policy and advertising the fact would soon find others joining the procession, until uniformity throughout an industry, or at least throughout a trading area would be the result. A wholesaler starting this practice in his area might even need to resort to a readjustment of his price schedules to arrive at a satisfactory cash discount to cover his lines as a whole. But it certainly would result in simplifying his own work and that of his customers.

I have been contemplating a move of this nature for some time, and would be glad to hear any expressions of opinion from electrical wholesalers, giving their reaction to the thoughts expressed here.

Very truly yours,

HARRY BYRNE, *President*
North Coast Electric Co.
Seattle, Wash.



KEEPING THE LIGHTS OF LIBERTY BURNING

THANKS to the foresight and creative skill of the fluorescent lighting industry, huge war plants today are being flooded with soft, non-glaring light at a high level of illumination . . . at the same time, very critically needed steel is being saved for ships, tanks and guns.

The new non-metallic reflector shapes, now being widely used in industrial lighting equipment, represent months of research and development on the part of a group of men who were determined to find a suitable replacement for steel in the manufacture of vitally needed fixture reflectors.

The Masonite Corporation is glad it has been able to work with the lighting industry in this crisis . . . by developing a special reflector shape which many have found offers definite advantages for war plant lighting.

Light-weight, durable and water-resistant, the new Masonite* Reflector Shape cuts shipping costs, makes installations easier . . . is a non-conductor . . . takes fine reflecting finishes . . . withstands hard usage. For more information, write Masonite Corporation, 111 West Washington St., Chicago, Illinois.

MASONITE CORPORATION

*TRADE-MARK REG. U. S. PAT. OFF. "MASONITE" IDENTIFIES ALL PRODUCTS MARKETED BY MASONITE CORPORATION. COPYRIGHT 1943, MASONITE CORP.

It's Right MASONITE

Viewpoint on Post-War Dumping

Maintaining sound price structure and protecting brand reputation can minimize disrupting dumping but manufacturers and wholesalers must cooperate

By Charles Golenpaul*

POST-WAR dumping need not be a serious threat to the trade if manufacturers and jobbers cooperate in maintaining price structures and brand reputations.

To begin with, at this time I am not particularly perturbed over the prospects of an avalanche of surplus goods being dumped on the post-war market. While radio parts are now being produced in fantastic quantities, such parts are just as rapidly assembled into radio and electronic equipment for our armed forces. Much of that equipment will be used by our armed forces or placed in reserve after fighting ceases. Thus completed equipment, much of it of a vital military character, will hardly be dumped into civilian hands. Also, it will hardly pay to break up discarded military equipment in order to salvage second-hand parts.

Nevertheless, the fact remains that radio parts are now being produced on a fantastic scale. No doubt there is some over-buying here and there. Considerable quantities of parts may be dumped by equipment manufacturers caught with over-supplies. What about this very real threat?

However, a sharp distinction must be drawn between such surplus parts and regular items produced for the jobbing trade. Manufacturers and jobbers should collaborate in making that distinction clear to the trade. Thus parts made for set or equipment manufacturers are usually not individually packaged. That is distinction No. 1. Loose goods are apt to be considered with suspicion. Manufacturers can play up their packaging in their advertisements

and otherwise, accentuating the suspicion.

Again, manufacturers' parts usually carry an entirely different part number or type designation to the confusion of the jobbing trade. That is distinction No. 2. Manufacturers can accentuate the discrepancy in type numbers or designations.

Still again, parts sold to manufacturers are protected by a blanket guarantee covering the initial buyer only. In other words, if such parts are resold to others as parts, the guarantee no longer holds. That is distinction No. 3. Both the parts manufacturer and the jobber can stress the lack of a guarantee on dumped goods.

There is a further distinction to be drawn and played up, and that is the vintage of the crop, so to speak. In other words, when were those dumped parts made? For whom? Were they ever used? Have they been taken from some broken-up assemblies? Or perhaps discarded as defective? Are they really good? Casting such doubts in the minds of those who dabble in dumped goods may often compensate for cost differentials and even win sales for regular goods at regular prices.

Of course if the buyer knows his radio parts thoroughly, he may pick and choose among dumped parts and get good stuff. It is a safe bet that radio experimenters, amateurs, laboratory workers, handymen and the like will have a holiday picking up those fine surplus parts originally made to the toughest wartime specifications and finally dumped at a ridiculous fraction of Uncle Sam's own cost. However, such trade is in a class by itself. Many of the items would not be purchased at normal prices. The dollars-and-cents loss can be considered negligible.

It is our normal trade that must be insured against the inroads of dumping. Here we have a far better chance of playing up the distinctions between regular goods and dumped goods. The serviceman, with a reputation at stake, and working with an adequate markup on the materials he uses, may think twice before he takes a chance on a nondescript dumped part which comes unpackaged, carries a different type designation, and carries no guarantee whatsoever. He simply can't afford to gamble that way.

Likewise the assembler of electronic equipment, the instrument maker, the maintenance man in the industrial plant and others who are in the radio business rather than the radio hobby. They cannot afford to take a chance on uncertain parts.

Right now our main job is to win the war. We cannot afford to spend valuable time worrying and fretting about post-war problems. However, without detracting one iota from the all-out war effort, both manufacturers and jobbers alike can and must do a little thinking and planning as to how the post-war dumping situation can be met, by drawing that sharp distinction between regular and dumped goods.

* *Sales Manager, Jobbers Division Aerovox Corporation and Chairman Eastern Division, Sales Managers Club*

Nonsense! Among my prospects and customers in this territory, I'm known as a top-ranking . . .

But whoa! I see what you're driving at. You mean, am I really "up" on *all* the newest developments? Have I been following precedent too long . . . relying on the old long-established methods? Are there better ways, *newer* ways, of doing some things which I haven't yet investigated?

Ventilation, for example. Is there a way to provide *more effective* ventilation—a modern, economical way—that I'm not familiar with?

Why don't I send for that free booklet of ILG's?—the one incorporating the newest developments in ventilating theory and practice!

ILG ELECTRIC VENTILATING CO.
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AIR CHANGE...NOT JUST AIR MOVEMENT!

Also "Attending" This Convention IN PRINT:

Are "Bud" Conklin and "Joe" Allen, Jr.

A. B. CONKLIN, JR., known throughout the industry as "Bud," put on Uncle Sam's uniform early this year and since then has done some intensive training and no small amount of studying in preparation for performing some highly specialized service — to the sorrow of Messrs. Hitler, Hirohito et al.

Before he donned the Army khaki, "Bud" had become almost a fixture on WHOLESALER'S SALESMAN for he joined our staff in 1934 as Western Editor, then was transferred to New York, where late in 1939 he was promoted to Managing Editor.

When an opening developed in the Sales Department, "Bud" decided to make the jump and so, beginning with 1941 "Bud" became Eastern District Manager for WHOLESALER'S SALESMAN and ELECTRICAL CONTRACTING.

During the years 1934–43 every convention held found "Bud" on deck with a camera and his nice manners and homespun philosophy endeared him to every wholesaler or manufacturer with whom he came in contact.

Naturally "Bud" misses seeing or hearing from his many friends in the industry, so—for those who want to drop "Bud" a line, here is his address:

Pfc. Alonzo B. Conklin, Jr.
42nd T.S.S., Lowry Field, Colorado

J. H. ALLEN, JR., "Joe" for short, joined the Chicago sales staff of WHOLESALER'S SALESMAN late in 1940, after having spent several months in the editorial department.

"Joe" came to us, well steeped in the customs and traditions of the electrical wholesaling industry because, with his father, the late J. H. Allen of Chicago, well known in the business, "Joe" had gotten talk about wholesalers for breakfast, lunch and dinner, ever since he wore knee pants.

Although "Joe" did mighty well in his territory the first year, the Pearl Harbor incident gave him the itch to do a little back-fighting of his own, and so early in the Summer of 1942, "Joe" joined the Navy and three months later turned up at the office in a snappy Ensign's uniform.

Since then we hear that "Joe" has become an expert in amphibian landing technique and is Instructor in that art.

When last we heard from "Joe," his address was:

Ensign J. H. Allen, Jr.,
641–G Avenue,
Coronado, California

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offers
IMMEDIATE DELIVERY
on
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● Easy to service. ● Weatherproof. ● Cast Feraloy socket housing, (semi-steel). ● Reflector. Porcelain enameled steel. ● Lens. Clear or stippled heat-resisting glass. ● 750, 1000 or 1500-watt lamps. ● Degree markings for accurate horizontal and vertical setting of floodlights. ● 4 Mountings. Cross arm bracket, pipe slip filter, wood pole or wall bracket, and vertical or horizontal U-bolt pipe clamp.

Type MUA can be furnished as an open floodlight. The weatherproof door can be added at any time.

Other light duty floodlights that can be shipped promptly are Type MUB in the 200, 500 and 1000-watt sizes; Type MUA Elliptalux and Type MUA Multalux. MUA floodlights can be furnished with an auxiliary reflector that concentrates part of the light into a narrow beam for longer range.

Type ADE-14 Heavy Duty Floodlights

● A high efficiency unit. Medium and long range. ● Weatherproof sheet steel housing. ● 14-inch crystal mirrored-glass reflector, narrow or wide beam. ● Lens. Clear heat-resisting glass. 50° spread, 100° spread or diffusing lens. ● 500-watt lamp. ● 4 Bases. Standard, pipe slip fitter, single bolt, and U-bolt pipe clamp.

Prompt shipment can also be made on other sizes of heavy duty floodlights; Types ADE-12, ADE-16, LCE-1120, LCE-24; ADR-12 and ADR-14 portable floodlights; RCD-8 special vaportight and RCDE-8 special explosion-proof floodlights.

Type DCX-18 Searchlights

● Long range. ● Pedestal mounting with ball bearings and pilot house lever control. ● Weatherproof steel housing, reinforced at load points by Feraloy castings. ● Accurate silvered-glass reflector. ● Lens. One-piece, heat and impact-resisting plate glass. ● 420 to 2000-watt lamps.

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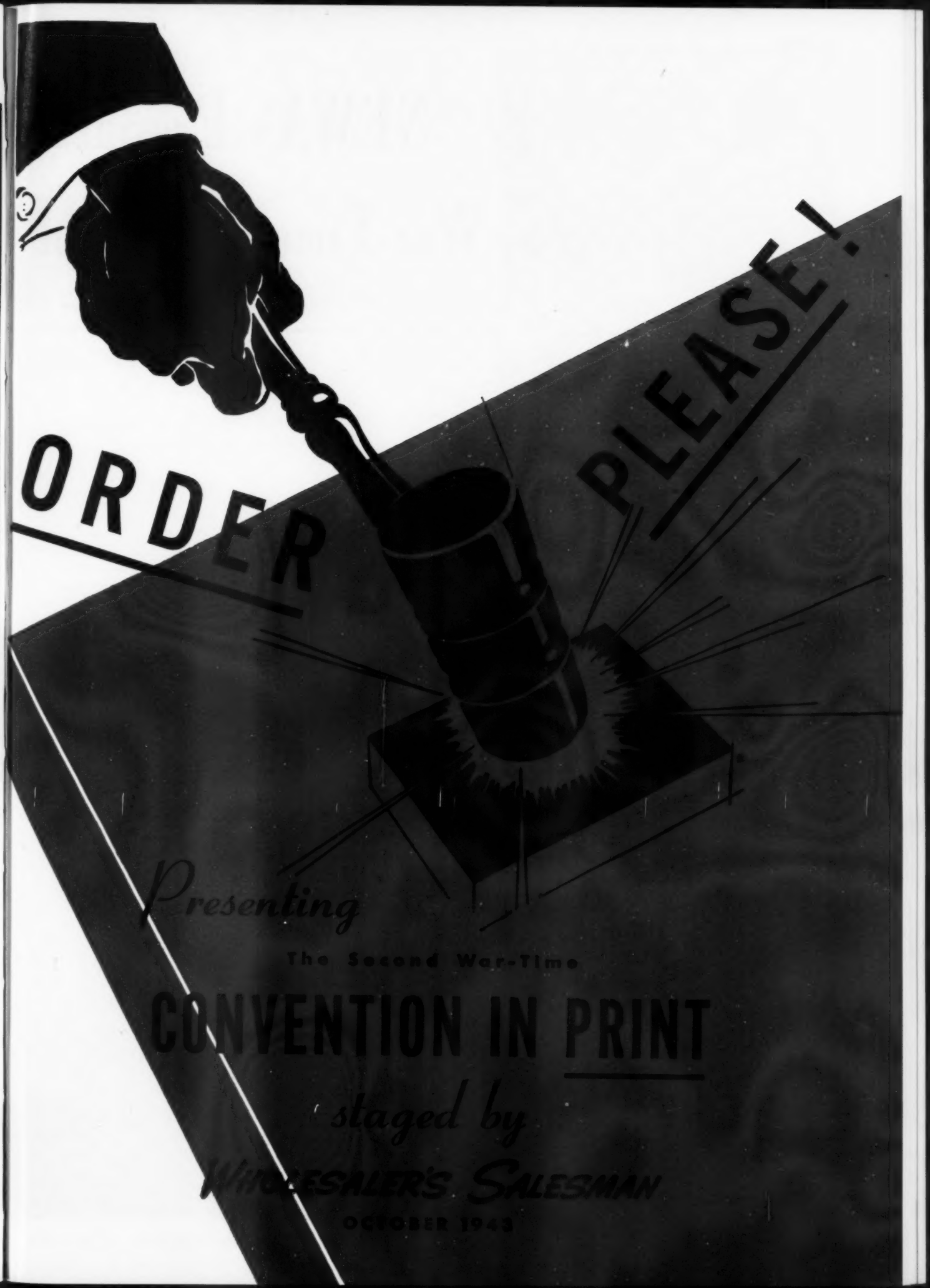
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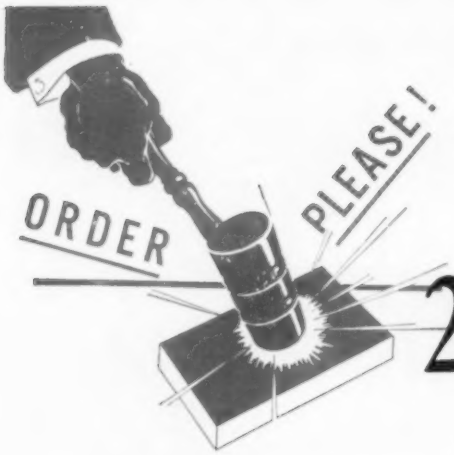
WHOLESALER'S SALESMAN
OCTOBER 1943



NEWA's President 2nd War-Time Convention

SOME fifty years ago the electrical wholesaler was born to these United States and, in the half century of his existence, great strides and progress have been made —not alone in this industry but many others.

Electricity—that giant power of nature—harnessed by man—has been, by far, the most important single contributing factor to this era of prosperity wherein the many things produced and controlled by electricity are taken for granted as a part of our daily life.

Electrical wholesalers are to be credited with a great deal of this progress made in so short a time. Thousands and thousands of new items have been added from year to year because of the efforts of wholesalers acquainting industry with this new magic and being able to show them how it can be applied in their respective plants to eliminate wasted man-hours and manufacturing space.

Manufacturers of electrical items have been able to devote their entire efforts to producing the much needed materials, and have their products made available to the whole country because of the electrical wholesaler, who handles anywhere from six to twelve thousand different items—many of them which cost only a fraction of a penny—but, nevertheless, are urgently needed to make a complete electrical installation.

This method of producer or manufacturer - to - wholesaler — to contractor-to-consumer or user distribution has been the prime reason for the continued progress and growth of the electrical industry, and has contributed materially to the fact that finished electrical energy has been made cheaper and cheaper to the people of these United States—not only in large metropolitan and industrial areas, but in every corner of our forty-eight States.

Why, then, the continued attacks of government and some business to alter or interfere with the logical, proper and successful methods of distribution? If the same amount of time and money were used in constructive efforts or criticisms, undoubtedly greater accomplishments could be achieved by our industry.

In the approaching post-war period, when so many new products will be coming into the market—when so many new people will be doing so many new things—when

NEWA's Management Committee succumbs to the pleas of Managing Director Charlie Pyle, allowed the WS Camera Clicks Editor into the sanctum just long enough to snap this informal picture and—to judge by the smiles on all the faces, everyone was glad to have a brief respite from the budget, manpower and other war-problem discussions that dominate the meetings these days.

Addresses IN PRINT

By D. Lyle Fife

President,
National Electrical
Wholesalers Association

so many men (some whose only adult experience will have been in the Armed Services) will have to be assimilated into business—when so many new opportunities will be presented to our country—it is difficult for me to understand the wisdom of following any other course than that which has brought us to the place we occupy, in the prosperity of this country, that we do today.

In a chart which I saw recently a forecast was made which estimates the cumulative figure on private savings to be $6,600 per family by 1945, as compared to $2,200 per family in 1939. Three times as much in a short span of six years. This completely reverses all former estimates of the size of markets for consumer goods, and I don't think it necessary to emphasize that electrical items could secure a good share of this potential business.

Money—purchasing power—accumulation of property—increases the self esteem of the individual, makes him more independent and more discretionary in his buying. Hence, to earn or secure this potential business, the manufacturers and electrical wholesalers must be ready to serve more efficiently than ever before this new public.

Manufacturers of electrical items, whether old ones, reentering the field, or new ones, will do well to make a survey and select electrical wholesalers throughout the country who are familiar with their respective areas and markets, and can give them complete distribution at once.

I cannot imagine various electronic products, including radio, television, x-ray, as well as innumerable other items, sold successfully unless they are distributed through electrical wholesalers—through men who have spent most of their best years and invested and reinvested their earnings to create and maintain organizations that can successfully carry on the fine achievements that have preceded them.

The next two or three years will probably have a very important and lasting effect on the future of private enterprise in our country. Let us be awake to the dangers that surround us and be ever alert to upholding the gigantic task that is ours. Stimulate and crystallize your thinking so that we may always be well regarded by American business.

Webster's definition of "Progress" is—"To move forward—to proceed—to continue onward in a course." Let us continue to make *PROGRESS.*

At NEWA's new and efficient headquarters in New York, suave and gentle "Don" Tolles and hard-working "Al" Byers were perfectly willing to face the WS Camera Clicks' lens in company with "Charlie" Pyle until Charlie insisted on putting on his hat and then it took some salesmanship to keep the group together. We don't know why Charlie wanted to wear a hat, but there it is.

To All Wholesalers:

WHILE the production achievements of the manufacturer, the farmer and the war worker are well recognized, the wholesaler's part in the war program is too frequently overlooked. In wartime, more than ever before, the wholesaler has proved himself an essential part of our distribution system.

Production is of prime importance, but without an efficient distribution system, it would be impossible to get essential goods and materials to the place where they are needed most, in the shortest possible time.

It is the wholesaler who makes it possible for the small producer to obtain the material which keeps his factory equipped for most efficient production. In a system of free distribution, it is the wholesaler who has the major responsibility for the equitable distribution of a limited supply of civilian goods. It is the wholesaler who must channel a suitable proportion of the supplies of civilian products to the war boom areas where population has increased many times its normal size.

War production is now six times greater than pre-Pearl Harbor levels. This is an encouraging picture. But it should be remembered that we have reached the stage where the production curve can no longer be expected to soar upward at the same rate. Adjustments that had to be made before production could get into full swing have been, for the most part, completed. New gains must now be achieved by increased efficiency in the use of facilities, materials and manpower.

In this the wholesaler can play an important part. By keeping the producer supplied with the material he needs when he needs it, and by spreading the available supply of civilian goods as far as possible, he will be helping to achieve new and higher war production records.

DONALD M. NELSON, *Chairman*
War Production Board

Washington, D. C.
September 6th, 1943

A Special Message to All Wholesalers

from

Donald M. Nelson

Chairman
WAR PRODUCTION BOARD

What's Ahead For The

A timely appraisal of the electrical wholesaler's future by an experienced wholesaler who, as head of a nationally-operating company, has a distinctly national viewpoint

THERE seem to be three distinct and separate periods immediately ahead.

1. The "Duration" period.

2. The "Transition" period, immediately following the end of hostilities.

3. That period usually thought of and commonly referred to as "Post-War."

Prospects for the rest of the "Duration" period do not seem to be very bright, and the problems with which we will be confronted during this period are largely continuing ones, perhaps becoming somewhat more acute with possible new problems and further restrictions. We have met those problems, with which we have been confronted up-to-date, and seemingly should be able to deal with those which will further confront us during this period.

We have thoroughly established the fact that we are an essential factor in this country's war production program. Intelligent, speedy and economical service which we have rendered has helped and will continue to help American industrial producers to maintain and improve their heavy production schedules. We electrical wholesalers will stay on this assignment until the last gun is fired.

The "Transition" period for the electrical wholesaler might be considered as that period of time between the end of hostilities and the date when full production of peacetime products will be forthcoming from the manufacturers. This "Transition" period may well be a critical period for electrical wholesalers, and many new problems will arise at that time.

Insofar as possible, we should anticipate in advance many of these new problems and be prepared to deal with them intelligently when they arise, so that we may continue to occupy our position of essentiality and give an adequate service to American industry.

There will surely be a great need for such service to all of those industries which are themselves converting their production to peacetime products. During this period, too, many commercial establishments will desire to modernize, to make improvements and renovations that have been long postponed. The pent-up desires of many consumers for new homes will begin to make themselves felt.

We may find it difficult to give the kind of service our customers will wish to receive during that period. Manufacturers' production and delivery of required quantities of construction materials may still be limited, and even possibly restricted for specific uses only.

It is during this "Transition" period that we, as electrical wholesalers, must put our house in order, so that we may well serve during the real peace-time or "Post-War" period. We must do our share in making jobs and giving employment to more people. It seems advisable that we make an investment in sales personnel with technical knowledge, and others with effective promotional talent as well.

There will be plenty for the technically trained representatives to do immediately during this period, and those of the promotional type (by some of us called "Sales Counsellors") should establish their company and themselves with selected dealers whom they expect to serve with appliances.

It will be during this period that we, as electrical wholesalers, will have an opportunity to build our organizations so that we may not only serve our regular day-to-day business, but be alert to suddenly expanded opportunities, and make our industry even more essential not only to those to whom we sell, but to our manufacturing suppliers as well.

The "Post-War" period will undoubtedly provide opportunities for volume and profit heretofore unknown to this industry. Concern should be given to the possibility of our becoming complacent, lax in our methods of operation, and control of operating expenses.

We have learned, the hard way (and this process of education will continue during period No. 1) how to work, not 40 hours or 44 hours or 48 hours, but around the clock, if necessary, giving a maximum degree of service with a minimum operating expense.

Electrical Wholesaler

Bolivar Studios, Inc.

John L. Busey

By John L. Busey*

All the credit for this expense control cannot be taken unto ourselves because specific factors beyond our control have made it impractical, if not impossible, to continue to employ all the personnel desired or to pay that personnel wages and salaries also desired. It will indeed be foolish if we permit ourselves to "unlearn" what we have learned, yet that very thing is likely to occur unless we constantly strive to prevent it.

There will most certainly be a tendency on the part of retail dealers, as well as electrical wholesalers, to "overbuy" during the early part of this "Post-War" period. The pyramiding of orders on the part of either will be most harmful to the interests of all, and ultimately bring about excessive and surplus production by the manufacturers and resultant "dumping."

In addition to his responsibility to himself and to his stockholders, the electrical wholesaler has a definite responsibility to the manufacturer whom he represents, and he must be willing to assume responsibility for an *adequate* distribution of a manufacturer's product. The manufacturer's production lines must be kept operating at a maximum efficiency, as he, too, has a responsibility in making more jobs for more people and giving continued employment. Close scrutiny by many manufacturers has from time to time been given to the effectiveness of distribution in the past, and, in some instances, unfortunately, the electrical wholesaler has been found wanting and interested only in his own net profits without regard to production of sales volume for the manufacturer.

We must take definite interest in the efficiency with which consumer goods are brought from the factory production lines and delivered into the consumers' homes.

It does not seem wise at this time to comment on the controversial subject of "Who shall receive what margins?", but, in view of the increase in the numbers of manufacturers who will produce electrical appliances and construction materials, the resultant competitive conditions, and the volume of sales apparent in the "Post-War" period, it is probable that there will be only a small spread between the manufacturer's cost and the retail price which the consumer will pay.

The distributing medium which provides the most economical operation and takes these changes in stride, will be able to produce a satisfactory net profit through vastly expanded volume and efficient control of each phase of his operation.

We believe our industry is capable of coping with these inevitable and beneficial changes to the end that employment in this country will be increased and that there shall be a greater use of the products which we distribute.

To sum up the future of the electrical wholesaler; for the "Duration," we shall continue to serve as we have since the "beginning." During the "Transition" period, we shall share honors with American industry in converting to peace-time pursuits and in the "Post-War" era, we shall, through our efficient service, contribute measurably to the American standard of living.

* *President, General Electric Supply Corporation*

TODAY, in War-time, We Are From Here, Where Do We Go

Declared as essential in the war effort lets the wholesaler stay in business for duration, but NOW is none too soon to do some post-war planning

ESSENTIAL TODAY—But this wholesaler's salesman will need to devote broad thinking and industrious study to be prepared for his coming peacetime market.

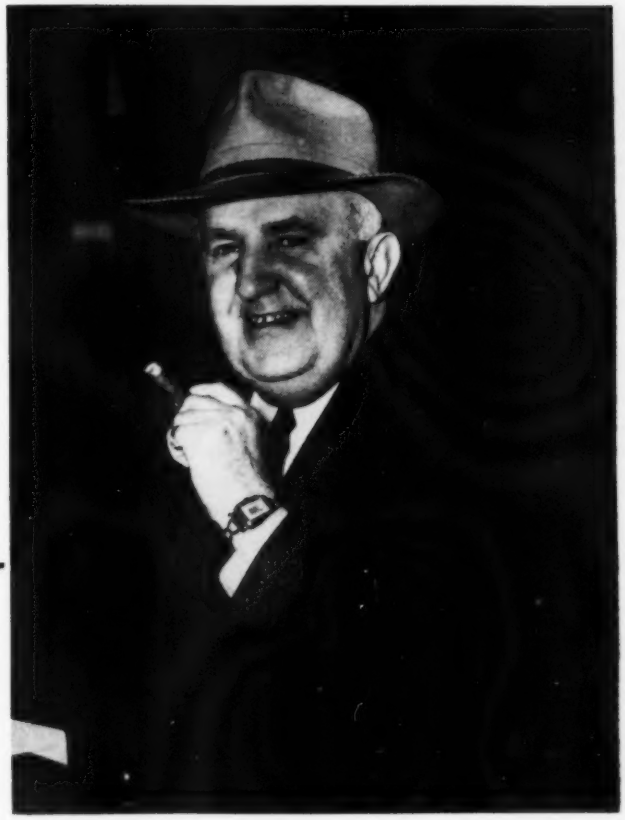
"THEREFORE in accordance with the authority of the undersigned, the Warehousing and Wholesale Distribution of Electrical Supplies and Equipment as itemized—are hereby Declared to be activities Essential in this Area." —H. R. Harnish. So declared Deputy Regional Director of the War Manpower Commission, H. R. Harnish at the meeting of the Southern California Electrical Wholesalers, August 6, 1943. Another milestone has been passed in the history of Electrical Distribution.

We have come a long way through troublesome and difficult times. We have had experiences no different

ESSENTIAL TODAY. The wholesaler's stockroom and his organization's "know how" in obtaining and expediting delivery of war goods are well-known—and they will remain well-known in peacetime if the wholesaler devotes the forward thinking and energy to his management operations that he is now doing in wartime.

Essential—BUT TOMORROW?

By David A. Smith
Graham-Reynolds Electric Co.
Los Angeles, Calif.



than the Democracy in which we live. We have found that we must fight to retain and protect the gains which we have made. We know that our industry is one of service and must be so declared to the World.

Nineteen-seventeen saw us on the defensive. World War Two saw a more experienced industry, again put on the defensive temporarily but this time found well prepared and fortified in the knowledge that distribution is an economic function which cannot be denied its proper position. Confidence was greater that we could prove our case, and we did. Today we stand declared "Essential". We are recognized. We have arrived. From here where do we go now.

Essentiality is no foundation on which we can stand permanently. As a part of the chain, Production-Distribution-Consumption, we rest on the bedrock of economics. Whatever we build on top of this bed must be constructive, helpful, and a proper function of service to our fellow men. If we neglect our position we will fall and something else will take our place. With a foundation and a background based on our proper function how can we miss. Statistics are boring and I only half believe most of them but our prospects are tremendous. We will turn from a war economy to a peace economy. The backlog of unsatisfied demand held in reserve by the present war is beyond imagination.

What will the consumers of our own Country alone, want and need. You know perhaps better than I. What will the countries of the Pacific Basin-South America-the Atlantic countries - Europe - Africa-Asia need. Imagination can be rampant with no need of control.

Are you a salesman? Can you see possibilities. How many flat irons will you need for your customers—or toasters or washers or ranges or other appliances. What will the revamped industrial plant need in the way of wire, conduit, switches, boxes, lamps and fixtures. What will the new home require in the way of new devices never heard of before, electronics-radio - television - electric kitchens. The answers are up to you Mr. Wholesaler, Mr. Salesman and your organization.

Are you management? If so, you must be prepared to function more than ever before. You must perform your activity of "assembly of goods at a central location for distribution as needed." You must broaden your viewpoint. You must realize that the wholesaler is a distribution outlet for many producers. You must accept the responsibility of delivering the nation's goods to the consumer where and when he needs them. The number of producers which you represent must be increased.

You will need to expand. You were restricted during the war, but afterwards you should enlarge your facilities. Expand to serve the tremendous demand sure to come for merchandise. Expand to facilitate the distribution of many new lines, expand to apply new methods of selling and last but not least, expand to assume your share of the responsibility that business and free enterprise will owe to our boys returning from the front.

In the words of Leonard E. Read, General Manager of the Los Angeles Chamber of Commerce in an address to the Pacific Coast Division of the National Electrical Wholesalers Association at Santa Barbara on June 19, 1943:

> The more Americans who work
> The harder they work
> The more efficiently they work
> And the more and better tools they use
> The more goods and services we will have for all.

Wholesaler's War Service Must be Built on Sound

I AM confident that manufacturer-distributor relationship has one of the most direct bearings on the success of both parties that can be pointed out under a single heading today. Few manufacturers can distribute their products as economically direct to user or industry as they can through the distributor. We, as distributors, have definitely proven our economic value through several decades and most emphatically during the past two or three years.

Most of our suppliers agree with this and our relationships will influence any efforts that may be launched towards creating plans for the orderly disposition of excess materials. Some study is being made of this subject today and is a vital problem and should receive the attention of both manufacturer and distributor immediately, not as a post-war problem.

This relationship might well be compared to the Labor-Management Movement that has been successful in a large measure.

Our business includes probably forty thousand items made up of Mill Supplies, Plumbing and Heating, Automotive Equipment, Builders Hardware, and Electrical, and this is only mentioned as evidence of the cross-section that is possible in connection with the subject.

We seldom make a change in a major line of merchandise. Those of you in the electrical business will appreciate this more when I say to you that we have made in our Electrical Supply Department only one change in a source of supply covering a major item in the last thirty years. This does not include however, large appliances.

We have found the lines with which we are most successful to be those which give us the right type of manufacturers' representation. By right type I mean the manufacturer's representative calling upon us from time to time that makes an effort to know and does know our personnel, not only in the department in which he is in contact, but others, including service sales people on the service floor, shipping room, and stock room.

One example, and this is not unusual, except that the manufacturer had exactly the type of representative that wanted to know everyone in our organization. This representative frequently came into the office at eight o'clock in the morning and again was in during the afternoon as late as five o'clock to make sure that there was nothing he was leaving undone that would in any way profit all concerned.

This manufacturer's business increased with us just thirty two percent for the year ending June 1, 1943 over that of the previous year. Let me state this was not due to any large orders but a constant plugging and actually knowing what was going on in the territory, having the goodwill of everyone in our organization which meant just that many additional salesmen for his company. This manufacturer's representative seldom sat down at my desk or the desk of our buyer and sales manager just for one reason, he knew full well that we buy merchandise only when it is sold or to supply the demands that have previously been created for it.

Another very outstanding example is that of two manufacturers that we all know very well over the years and during this time they have been compelled to change representatives several times. One of these manufacturers was not so fortunate in our judgment, in securing the proper representation as the other and as a consequence they have practically no business and the other has it all. We are not particularly pleased with a situation of this kind yet our overall business is far greater than it was prior to the probably fifty-fifty division of our business with two manufacturers.

We believe in our manufacturer's friends, in fact look upon them very much as a customer or a stockholder, in that the amount of business that we do with them represents their investment in our business and almost without exception these manufacturers are quite appreciative of their position with us and our combined efforts are much more effective when working in absolute harmony.

We want to know our manufacturing friends well; personally, if you please, and today I recall not one of the manufacturers with whom we are dealing in any sizable manner, that some of us here do not know by his first name and would

By Hoyt O. Smith

Vice-president
The Hardware & Supply Co.
Akron, Ohio

And Post-War Prosperity Manufacturer-Distributor Relationship

When these trucks start loading with electrical goods for peacetime consumption, wholesalers will need the frequent help and cooperation of manufacturers representatives who are armed with sound sales policies.

be very happy to call upon him to render any sort of reasonable service that might be required. This pays big dividends.

There is no substitute for honesty or hard work.

Our suppliers are capable of matching wits with us and it is not well to attempt "carrying water on both shoulders." Have you ever found a manufacturer successful in this respect, or a distributor?

A lot has been said and written about "know your merchandise" to be a successful salesman, whether you represent a manufacturer or a distributor. This is true and we find salesmen that know their merchandise perfectly and particularly sales engineers. This sales engineer will have a lot of engineering to do in the future that was not expected in the past. This will be a comparatively new service item for most distributors, as well as the manufacturer and the better we know our supplier and our suppliers know us and our ability, the better team work and consequently we both do a better job.

Another angle to this subject is that of selective distribution versus mass distribution and this can be approached more intelligently and in fact a lot of *approaching* is done if the proper channels of distribution are maintained. War time selling and/or manufacturing cannot succeed in peace time. We are guilty of infractions of the old routine or standards of business—all directed to winning the war first. We should remember some of the well tried fundamentals and start rebuilding from these now.

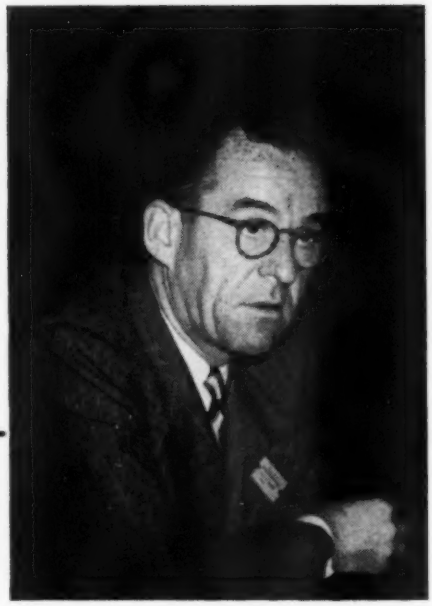
There is so much loose post-war talk today that I shall not attempt to touch upon this other than to make this observation. The wholesaler who has the goodwill of his supplier and is not making requests unreasonably today or tomorrow, and at the same time keeps his sales force built up to the highest percentage of efficiency, will fare best in the reconstruction period to follow the war.

Now then why all this story about our suppliers insofar as you, the reader, will profit? It is just this: We have found that over the years, as has been stated here, we do the best job where there is team work, and today with thirty six men representing us in the field of our operations, we continually point out the fact that every manufacturer's representative that you can add to your sales force means additional dollars and cents reflected in your commission check at the end of the year.

P.S. Better start making and renewing friendships with your Trade now, new and old—manufacturer, distributor, dealer.

By J. A. Hawks

Acting Chief
Electrical Supplies Section
Industrial & Hardware Supplies Branch
Wholesale & Retail Trade Division
War Production Board



SO much has been written about the importance of distribution to the war effort, it is our preference to contribute, to this "Convention," brief comments on matters we believe of interest, or importance, to electrical wholesale distributors.

Should readers have questions on the topics discussed, or any other problems, they are invited to address the author care of the War Production Board.

Advisory Committee

As this goes to press, preparations are being completed for the third meeting of the Electrical Wholesale Distributors' Industry Advisory Committee.

The industry should show more interest in the Advisory Committee. Here is a useful opportunity to register industry opinion on existing, or proposed, regulations. Prior to each meeting the industry has been invited thru associations and trade papers to submit suggestions for the Agenda. It will not always be possible to accept all suggestions but a more active support of the Committee would be extremely helpful.

It should be remembered that the members of the Committee are rendering a real service to the government and their industry. They suffer all of the aggravations of travel conditions today at their own expense. It is pretty much of a thankless job aside from the personal satisfaction of a contribution to the war effort. Certainly, the industry should show a more appreciative response than has been the case to date.

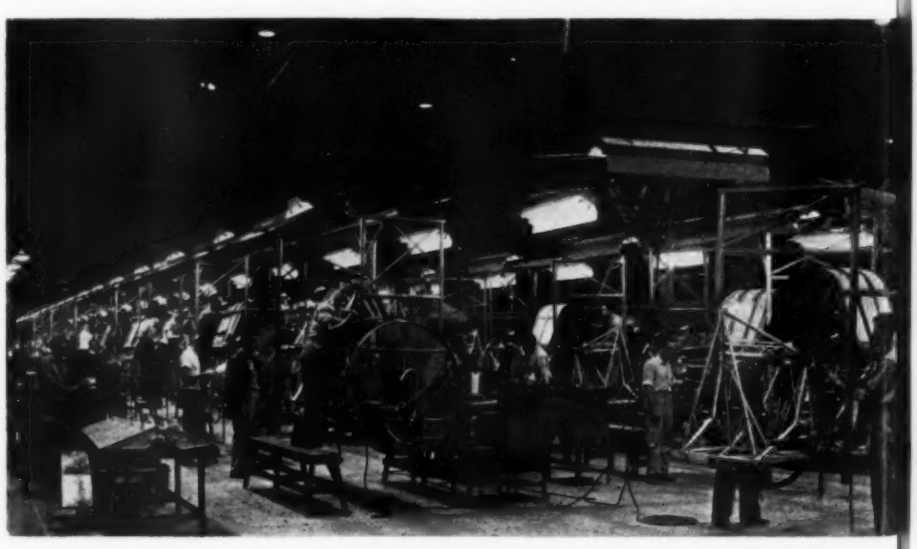
Small Appliance Survey

This is a good opportunity to extend deserving thanks to the National Electrical Wholesalers Association for the splendid survey on the small appliance situation.

The completed survey, with all questionnaires, has been turned over to the Office of Civilian Requirements. It is expected that the information, thus provided, will play an important part in O.C.R.'s determination as to whether or not it will be possible to provide a limited quantity of flat irons, and possibly other small appliances for proven, essential, civilian needs.

If electrical wholesale distributors do not fully understand, and appreciate, the value of Form WPB-547 (formerly PD-1X) it is not the fault of the War Production Board. The procedure has been fully explained at conventions, war conferences, local meetings and in industry trade papers. Beyond that, the invitation still stands for inquiries on any point in the procedure that is not fully understood.

Strange as it may seem, there are still a great many electrical wholesale distributors who have never made use of the form. The most popular reason for their failure to do so appears to be "it is too much trouble to make out the form." We, of the War Production Board have little or no sympathy for that atti-



How To Work More Closely With WPB's Wholesale & Retail Trade Division

tude when minor inconveniences on the home front contribute to success on the war fronts. However, we would like to see definite evidence of a change in that situation.

For several months the Office of Civilian Requirements has been introducing programs, increasing the flow of essential materials for civilian maintenance. The fundamental fact still remains that poor distribution can nullify any production program, no matter how efficient. With those thoughts in mind it should be easy to understand that electrical wholesalers who continue to ignore WPB-547, unintentionally perhaps, retard the war effort on the home front. We make that statement because WPB-547 (formerly PD-1X) is the instrument that provides the priority assistance necessary to secure materials for resale to civilians without requiring priority ratings.

It may well be that changing conditions will influence greater use of WPB-547. According to reports, the volume of business available on extendable ratings has been reduced to maintenance and repair industrial requirements. That situation we hope will influence greater interest in non-rated civilian requirements and bring about a better job of distribution by electrical wholesalers.

WPB-547 (formerly PD-1X)

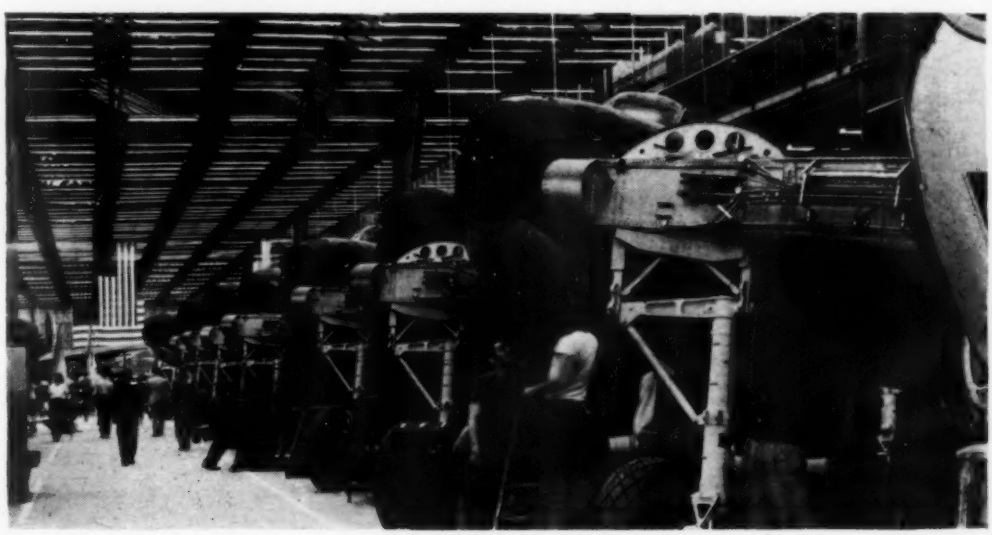
There is one situation traceable to the discussion of the form at the Buffalo War Conference. At that time the question was asked if it would not be possible to apply for items by classification rather than by item. The reply was that *Wiring Devices* was the only line on which it would be unnecessary to apply item by item. The War Production Board is interested in avoiding as much detail work as possible, for itself and for industry, but it can't be done in this case.

On Motors for instance there are two Limitation Orders, one for fractional, and, another for one HP and over. The same thing is true of many other items. There are other reasons why the analyst must insist on applications being itemized. There is no alternative but to return, without consideration, applications that do not meet this requirement.

* * *

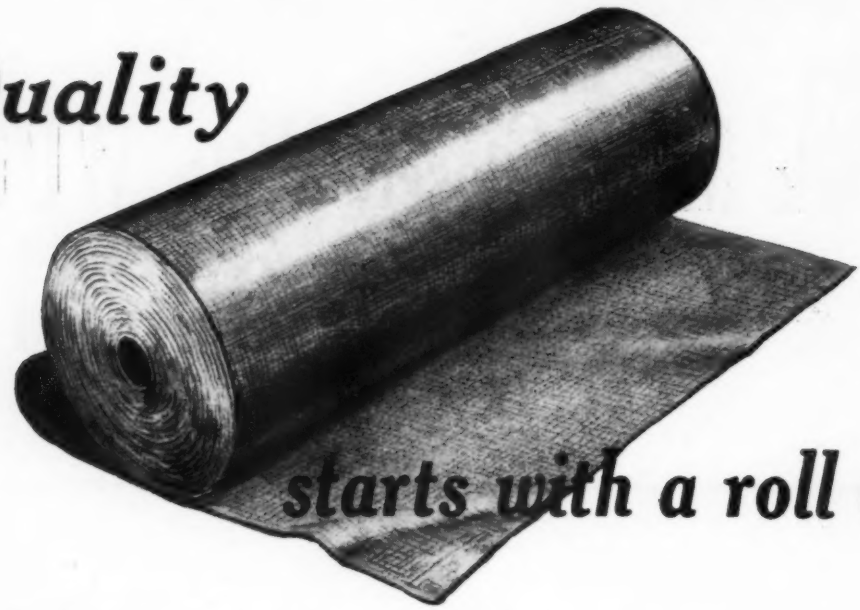
No further leniency can be shown to applicants who for one reason or another fail to answer *ALL* questions on the form.

A single unanswered question now



Wholesalers have been enabled to keep production lines like these moving and turning out war goods, because the War Production Board set up the necessary system to keep maintenance and repair materials flowing into the wholesalers' warehouses—BUT only the most complete cooperation and full compliance with WPB rulings will assure wholesalers of gaining the fullest benefits of that system. Photographs from O. W. I.

Quality

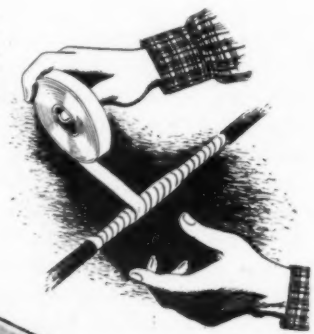


starts with a roll of cloth . . .

THE first essential for judging the quality of friction tape is the strength and durability of the basic fabric used in its manufacture.

A substantial fabric forms the basis for PANTHER and DRAGON Tapes. This fabric provides a finished product that liberally meets the requirements of current specifications.

Compare *all* of *today's* features of PANTHER and DRAGON Friction and Rubber Tapes with Federal Emergency and A.S.T.M. requirements and you will find the reasons why so many wholesalers are specifying and recommending these high grade tapes to their customers.



Sold through Recognized Independent Wholesalers . . .

Rubber tapes are available in both PANTHER and DRAGON Brands.

RUBBER TAPE

1. Guaranteed Footage
2. Substantial Fabric
3. High Tensile Strength
4. High Dielectric Strength
5. High Adhesive Strength
6. Uniform Thickness
7. Uniform Width
8. Excellent Tackiness
9. Strong, Durable Core
10. Colorful, Attractive Boxes

FRICTION TAPE

1. Guaranteed Footage
2. High Grade Compound
3. High Tensile Strength
4. High Elongation
5. High Dielectric Strength
6. Uniformity of Thickness and Width
7. Excellent Fusion
8. High Insulation Resistance
9. Excellent Tackiness
10. Colorful, Attractive Boxes

PANTHER & DRAGON
FRICTION AND RUBBER TAPES

HAZARD INSULATED WIRE WORKS — DIVISION OF THE OKONITE CO.

WILKES-BARRE, PENNSYLVANIA • OFFICES IN PRINCIPAL CITIES

3311

compels return of the form without further consideration.

* * *

When using WPB-547 greater care should be taken in the relationship of the figures called for in Column "A" with those in Column "F." Many times one, or the other, is in excess of the quantity earned by turn-over. In cases of this nature the analyst, knowing unit prices, uses whichever figure is smaller as a base for the quantity approved but in some cases, the application must be returned for proper adjustment.

* * *

Many distributors are of the opinion that several ratings might be available on a single specified product. Too often, when an application is returned, the distributor is advised by a manufacturer that the approved rating is not high enough to secure delivery within a reasonable length of time. The distributor immediately writes the War Production Board that he must have a better rating. Improved ratings can not be obtained, or granted, as easy as that.

When a regular supplier advises a distributor that a rating is not good enough the next step should be to seek out another source of supply, and to continue to do so, until all known sources of supply have been contacted, without success. After that has been done, an appeal should be forwarded to the Wholesale & Retail Trade Division enumerating *by name* the manufacturers approached and their replies. With that complete picture an attempt can be made to secure an improved rating directive from the product division.

On Form WPB-547 only one rating is available on a given line of material. True, as conditions change, improvement may be necessary. However, distributors must justify a request for an improved rating by factual record proving that the present rating has no value. A great deal of mutual time and aggravation will be saved if the routine proposed is carried out.

WPB-547 (Formerly PD- 1X) Vs. L-63

It would seem in order to correct the impression that there is any relationship between WPB-547 and Inventory Limitation Order L-63.

Several months ago Order L-63 was amended to provide a *permissible* inventory level of 90 days in some states, and, 120 days in others. Immediately, a great many distributors jumped at the conclusion that 90 day quantity requirements would henceforth be approved on WPB-547. Unfortunately, that cannot be possible while shortages of materials remain critical.

WPB-547 is strictly an instrument available to distributors in need of priority assistance in order that they might obtain their share of a *limited* available supply. Obviously, if the available supply of a product is plentiful, no priority rating is necessary. It is only when the supply available is *limited* that Priority Regulations are invoked.

Naturally, the supply available varies according to the essentiality of products to the war effort. On some items, earned by turn-over quantities, must be cut back as much as 90-percent while on others a more liberal allocation might be possible. Unfortunately, there can be no set, or permanent, percentage schedule as shortage of a product might be more critical in this quarter, than it will be in the next.

If every item in a distributor's stock was available thru the use of WPB-547 there would be no need of Order L-63, but, that is not the case. There are many items such as incadescent lamps, radio tubes, ranges, fans, etc., that must be obtained thru a variety of distribution procedures sponsored by Product Divisions. Therefore Order "L-63" controls the distributor's entire inventory and has a job to do by itself.

Back Orders

It is our hope that this comment will clarify the situation for those distributors who write to the War Production Board complaining that "only a two weeks supply was approved on WPB-547 when according to L-63 it should have been a ninety day supply." As stated in Order L-63 a 90 day supply is *permissible,* if you can get it, but on most products the limited available supply makes that impossible.

In many cases where distributors apply on WPB-547 and ask for a quantity in excess of that earned by turn-over performance, they endeavor to justify the request by elaborate emphasis on the number, or quantity, they require to fill "Back Orders." While material shortages continue critical no consideration can be given to that situation. The supply available is so limited that great harm could be done if so called "Back Orders" were accepted, by the War Production Board, as sales.

However unfortunate, we still have our average percentage of "chiselers." There could be no such thing as equitable distribution if the "cheat" could accumulate and include a collection of illegitimate "Back Orders" in sales, only to have the orders so included cancelled once the material was enroute. While there are other complications that destructive possibility eliminates any standing for "Back Orders."

Aside from the manner in which "Back Orders" could interfere, with the mechanics of equitable distribution, there is reason to question the practice of holding back orders, in the face of conditions today and at the war's end. There would seem to be wisdom in the practice adopted by certain distributors who use the clause "Items not included in original shipment will be automatically cancelled if the material is not available in thirty days."

Distributors would do well to imitate the procedure of the War Production Board when they receive a limited supply of critical materials. Rather than have an uncontrolled number of back orders interfere they too should make a more determined effort to equitably distribute the material in their area of activity. Beyond that, at the war's end, with materials normally plentiful the "Back Order file," will go into the discard, however numerous might be its contents. Certainly, today, there is no necessity to assure the sale of critical items by the accumulation of "Back Orders."

"Back Orders," today, accomplish nothing and their automatic cancellation would bring many benefits, now and in the future.

TRADE MARK RACO REG. U.S. PAT. OFFICE

WILL BE READY TO MEET YOUR REQUIREMENTS OF "TOMORROW"

IMPORTANT war contracts are, of course, demanding Raco's attention today — but in addition, extensive postwar plans are being formulated at the Raco • All-Steel factory.

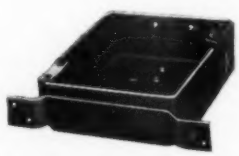
In our current research, postwar markets are being studied—every effort is being made to simplify Raco products. Through both war contracts and postwar plans, Raco • A-S-E Engineers are keeping in step with wiring trends. You are assured that Raco products "tomorrow" will measure up in every way to Raco • All-Steel's reputation for quality—that you will be able to meet the huge demands which postwar electrical developments will bring about.

Distributed Nationally by

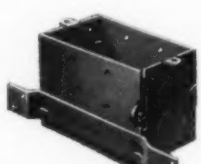
ALL-STEEL-EQUIP COMPANY, INC.

310 Griffith Avenue, Aurora, Ill.

RACO • ALL-STEEL ELECTRICAL PRODUCTS



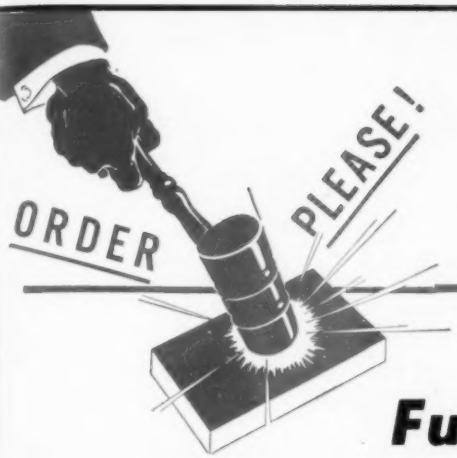
CO½-O Square Outlet Box — a tested veteran now serving extensively in the war effort. Also used widely in the expansion of the nation's industrial business.



MCLO Switch Box of non-metallic cable — adapted for newer types of building construction.

RACO • ALL-STEEL • PRODUCTS

SWITCH BOXES • OUTLET BOXES • CONDUIT FITTINGS • CABINETS



SYMPOSIUM

Future Prospects of the Electrical Wholesale Distributor

By Over Thirty Executives of Well Known Electrical Manufacturing Concerns

INTRODUCTION

Over three months ago WHOLESALER'S SALESMAN invited numerous manufacturers in the electrical field to contribute to this symposium their personal views on the Wholesaler's Future Sales Prospects for various groups of electrical products, radio and appliances.

When "the deadline" for this "Convention-in-Print" was at hand, we were thrilled to find that well over thirty executives had taken time out from their strenuous and often perhaps hectic duties to set down their considerate opinion for this audience.

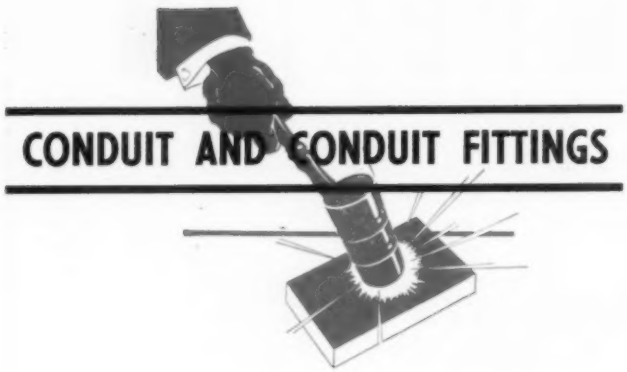
It is doubtful whether ever any real convention was held, at which even half that number of busy men delivered their individual opinion on an important subject in person.

We doubt also whether these executives who here are expressing their views, could have been induced to talk in a similar strain at a real convention.

Therefore we feel justified in believing that this symposium is in fact an outstandingly important and timely contribution, and particularly so, because the statements here presented constitute a collection of considerate opinions that will inevitably serve as a valuable guide to all who are today wondering about the future of this industry.

We consider it a distinct privilege and pleasure to have the opportunity of publishing these statements in this, our SECOND WAR-TIME CONVENTION IN PRINT and—
We hereby extend our sincere thanks to all who participated in this symposium.

The EDITOR



CONDUIT AND CONDUIT FITTINGS

Introducing

Mr. A. F. Hills

Vice-President
Crouse-Hinds Company
Syracuse, New York

War-Time Restrictions Have Piled Up Post-War Demand For "Approved" Materials. Depleted Stocks Also a Large Factor

The scarcity of critical materials has resulted in the placing of restrictions on the manufacture and use of electrical products except for the most essential War activities.

As a consequence of these restrictions, many electrical

installations were of a temporary nature and made with substitute materials. This was done with the full knowledge that with the removal of the restrictions these installations would require replacement with permanent construction meeting prewar standards. The removal of the restrictions will result in a potential market for large quantities of electrical material.

Present depleted stocks of the wholesalers, industrials and contractors must be replenished to meet the peace time demand for electrical products.

Introducing

Mr. J. C. Grindell

Sales Manager
Killark Electric Manufacturing Company
St. Louis, Missouri

"Beating Swords Into Plow-Shares" Process Will Make Prosperity In Electrical Field. Continued Prosperity To Last Many Years

Future prospects for selling conduit fittings, junction boxes, etc., will again come through small electrical contractors and industrial organizations, just as soon as the war ends. Selling exclusively through electrical wholesalers as we do, our contact with both types of business is on a very large scale. Manufacturing plants, large and small, who are now working on war products, will be obliged to re-arrange and change many pieces of equipment, and this will help to put the contractor back into business.

Many old and new businesses will be revised; many government plants will be used to manufacture civilian goods, and they too will require wiring changes. Going from 100 percent war work back to peace-times will require drastic plant changes, all for the good of the electrical industry.

We shall share in the prosperity when it comes to re-employing the millions of young men who are now fighting for the new world we in the electrical industry see rapidly approaching. We shall supply the electrical power for beating swords into plow-shares. Thousands of filling stations which are now closed will go back into service, needing more electrical wiring and explosion proof installations.

The prospects for the future are too numerous to mention. We shall have continued prosperity for many years to come.

Introducing

Mr. L. R. Quinn

Vice President
Enameled Metals Company
Pittsburgh, Pennsylvania

Post-War Building Boom Seems Certain But Economically Sound Sales Policies Must Guide Manufacturers, and Wholesalers

You put me in the position of the sea Captain who was approached with the question, will this storm ever stop, and the Captain answered: "It always has before Madam."

The war is going to cause us all a lot of grief in getting

back to normal business. Many companies have sold the Government direct, eliminating the jobber. This is economically unsound unless you desire to eliminate the jobber entirely. Jobbers have been quoting Government inquiries thousands of miles from their place of business. This is economically unsound.

As to the volume of business, I feel that we will have a very definite building boom. Whether this will be limited to smaller structures or not, I do not know, but I think that conduit business will be above average for approximately three years after business has been converted back into free enterprise.

There will be many changes in the types of products used with the possible exception of conduit, which is the cheapest means of a safety and fool proof raceway. We will probably see a lot of men rushing into business, hoping to get started over again, and there, of course, will be many failures. The same is true of manufacturers, but I firmly believe in the end we will come out with sane and better business ethics and practices than we enjoyed before the war boom.

Remember there will be a new generation taking over, as many of us will retire as soon as the war is over.

Introducing

Mr. H. R. Coward

Manager of Sales
Electrical Division—Steel and Tubes Division
Republic Steel Corporation
Cleveland, Ohio

Flood of New Construction, Re-Conversion, To Tax Production Capacity After The War. Meanwhile Observe WPB Rules To Win War

Predictions are rife these days—some are pessimistic—about substitution of materials for conduit, EMT and allied products. A number of these new materials may make the grade, but we don't agree with the pessimistic view. We're looking forward to these new competitors, hoping that together with them we'll build a bigger and better market for the electrical industry in which there will be room for all.

But before radical changes of any kind can take place, authorities agree we're due for a flood of new construction. To participate in this new market, we will require all of the tremendous capacity of the current manufacturers —capacity that will be immediately available.

Another factor creating a huge demand will be the re-conversion of war plants, revamping to turn out their normal products again. They're going into action at top speed in a rush to fill the long-deferred demand for peacetime products.

Post-war is one thing; the immediate future is another. Electrical wholesalers can boost their immediate sales potential and at the same time render an additional service to the war effort by studying and keeping posted on governmental regulations. In countless instances inferior substitutes have been pressed into service in war plants and essential industry simply because of lack of a clear interpretation of the multiple rules and regulations. At times this has actually been a hazard to war production. Distributors have here further opportunity to enhance their importance to the war effort, and at the same time it is one of the keys to today's sales.

Introducing

Mr. H. G. Morrow

Manager of Sales—Welded Products
Spang-Chalfant
Pittsburgh, Pennsylvania

Large Latent Demand For Consumer Goods Plus World Rebuilding Needs To Tax Output. Must Plan Ahead To Do The Job

Manufacturers have realized that the immediate objective is to win the war and all man power and productive capacity have been devoted to that end. In many instances this has meant the transition from the production of peacetime products to "Implements of War."

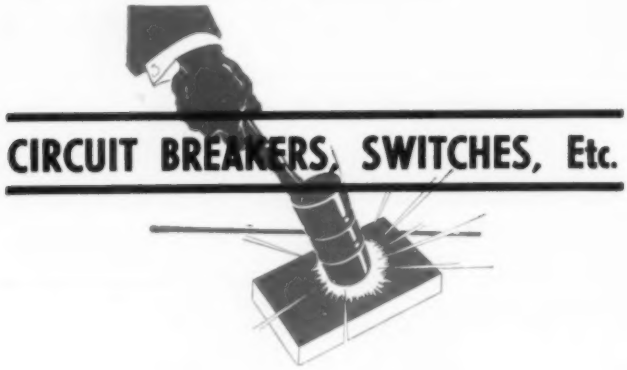
Wholesalers and manufactures have willingly accommodated themselves to the situation and are all part of the team which will win the victory.

There is no reason why our country's increased production facilities should not be fully occupied after the war. The American people have more money to spend than ever before in history which will be spent largely for homes, automobiles, radios and other items which have become a part of our "must" living standards.

This latent demand for all consumer goods is tremendous and the unsatisfied needs, not only of our country but our South American neighbors, to say nothing of the rehabilitation requirements of the war torn countries, will provide a backlog for many years after peace comes.

Our company, in common with others, has a post-war planning department to determine what product changes

or additions should be made to our present facilities to do our share in helping to fill post-war needs.



Introducing

Mr. Henry J. Reinhardt

Vice President in Charge of Sales
Frank Adam Electric Company
St. Louis, Missouri

Wholesalers Must Build Effective Tie-ins With Manufacturers, Strengthen Service, Cooperate Closely With Contractors

By this time I am sure that there is no doubt in anyone's mind as to how the Frank Adam Electric Company feels about the electrical wholesaler, and his place in the chain of distribution of electrical merchandise. I don't believe that there can be any doubt in any manufacturer's mind as to the importance of the wholesaler's position, speaking generally.

The only difficulty that remains, as I see it, is that some manufacturers even while admitting the importance and necessity of the wholesaler in a general way, feel that their own operation is of such a local nature that they do not require the assistance of wholesalers in the distribution of their products. In some instances that is true, and while that situation disturbs manufacturers who distribute nationally somewhat, it was never a serious handicap.

During the war period and particularly since the construction industry has shown a very sudden and marked decline, some of these smaller manufacturers have, by means of mail solicitation, attempted to do somewhat of a national job because of centralized Government purchasing conditions, and this practice has perhaps disturbed some of the national manufacturers to an extent. But even that, I suppose, will not be a serious permanent situation.

It strikes me that from here on out those electrical wholesalers who do not have a satisfactory industrial tie-in, are going to find the going pretty tough. Fortunately, I suppose, most wholesalers have been able to fortify themselves sufficiently financially so that they can, by trimming their operations in the way of personnel and overhead to a minimum, weather the storm, if the conditions as they now are will not last too long.

This same situation applies also to the contractors, with the exception that the contractors have a somewhat better chance of operating on a restricted basis, since as a rule the contractors overhead can quite readily be reduced to a comparatively small item and the operation carried forward with a greatly reduced volume of business.

The problem that confronts the wholesalers is, that of maintaining a level-headed operation from a price standpoint. In other words, with a greatly reduced volume, certainly the wholesaler needs his maximum margins as extended him by manufacturers. All too frequently wholesalers are tempted to slash these margins because of the competitive situation. Oddly enough, when volumes were extremely high, many wholesalers likewise greatly reduced their margins on the theory that the large volume gave them a net return sufficiently interesting to them. Certainly, when you analyze the two situations, it seems that there must be some fallacy in their logic somewhere. Don't get me wrong, this is not an indictment of the jobbers, for after all many manufacturers seem to be following the same line of reasoning.

There is one thought I want to make in closing and that is that regardless of the problems we find in our industry, I am convinced that the electrical industry is extremely fortunate in having a setup from an association standpoint that is, that in my opinion ranks amongst the best. Enlightened effort on the part of the leaders in the various groups is bound to bring improvements as we go along. Our problems are obstacles for us to overcome, and if we persist in working them out, undoubtedly we will be all the stronger as a result of our efforts.

Introducing

Mr. J. J. Mitchell

Vice-President in Charge of Sales
BullDog Electric Products Company
Detroit, Michigan

High-Level Sales Should Continue, And— After Fighting Ends, Boom Seems Certain. Better Selling, New Products Needed

Lacking the omniscience of a newspaper columnist, we hesitate to make predictions of things to come.

We do know of course that, with most of the war plants built and in production, we can hardly count on such a huge building market as 1942 witnessed. However, we are optimistic.

While sales curves show some recession from their high peaks, business in our lines is still at a high level and we expect that it will continue so, even under war conditions, due to the requirements of maintenance, involving changes, replacements and additions to existing electrical systems. A certain amount of new construction may also be expected.

An early conclusion of the war, of course, would introduce another set of conditions that might temporarily slow matters during the period of readjustment, the aftermath of which however, would again assume boom proportions.

Irrespective of conditions however, the real salesman will always regard himself as the master rather than the victim of circumstances. He takes the utmost advantage of whatever potentialities exist and the results always prove commensurate.

In other words, our guiding principles are based, not on always expecting conditions favorable to a so-called sellers' market, but rather on the creation of better products, the promotion of new applications, and the adoption of better and more intense selling methods. With these principles, and in this country, with its vast material resources, great commercial enterprises and an educated progressive people constantly seeking higher standards, the possibilities for selling are ALWAYS—good!

Introducing

Mr. C. Lewis Hull

Manager, Merchandise Sales
Square D Company
Detroit, Michigan

War-Time Sales Will Stay at High Level. Peace-Time Conversion, Commercial And Residential Demands Indicate Boom

Although the immediate prospects for sales of electrical equipment are probably of more concern to wholesalers than future prospects, I shall take up the future prospects first.

Future or post-war prospects for the sale of electrical devices present an optimistic picture. At first glance it would appear that the accelerated industrial construction of the war period would bring about a point of saturation in that field of construction. However, many of the new war plants were built for specific types of production and to convert them will create a demand for much electrical equipment. Many of the older plants will be abandoned by present owners in favor of some of their newer plants. Undoubtedly many of these older plants will be purchased by smaller but growing manufacturers and the revamping of these plants for their particular needs will also create considerable demand for electrical equipment.

We in the electrical switch, breaker and panel business are somewhat like lawyers in that we get them coming or going. We fitted into the picture of conversion to war and we will definitely fit in the picture again upon conversion to peace.

Residential construction which just prior to the war had not yet attained the volume necessary to meet the demand, presents a very optimistic post-war outlook. Most experts agree that a forecast of as high as one million dwelling units per year for ten years might even be on the conservative side. Past performance has indicated that along with five billion dollar residential market, we can expect five billion dollars worth of commercial building. The ratio between commercial building and residential building has nearly always been about one to one. These two markets alone represent a demand for electrical equipment that exceeds substantially the prewar demand.

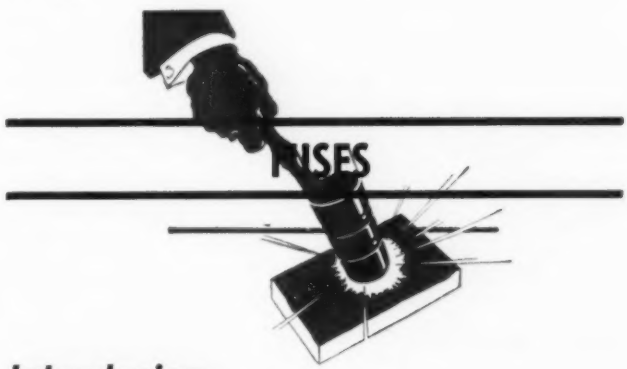
Resumption of the extension of rural electrification and electrical conversions in areas where large hydro-electric plants have been completed also brighten the post-war picture from our stand-point.

One other bright spot in the post-war period for the sale of electrical switches, breakers and panels is closely tied up with the competitive selling conditions that will exist and the high labor rates that are probably here to stay. High labor rates and comparatively low selling prices demand manufacturing efficiency of the first order. This will call for much revamping of production practices, a high degree of tooling and manufacturing efficiency. This in itself will create an industrial market for electrical equipment which will continue indefinitely.

Now back to our present problem of immediate sales prospects. Although nearly all construction has come to a standstill, the immediate outlook is not too disconcerting. The high rate of industrial production that is still prevailing means a high rate of machinery replacement including electrical equipment. The demand for twenty-four hour production in many plants means constant replacements of obsolete or worn out electrical equipment.

In general, prewar prosperity had not attained a level sufficient to encourage the revamping of many electrical systems that had actually become obsolete and were expensive to operate. Some projects have already been started and many of them can be completed even before the war ends. Change over and replacement expenses can be written off and with taxation so high it is to the advantage of manufacturers to maintain their plants at the highest point of modern efficiency. This market is as big as you make it. Sound electrical engineering advice coupled with good sensible selling can create a substantial demand for electrical switches, circuit breakers and panelboards in industrial plants.

Post-war will not descend upon us in a split second. In some respects it is already here. The war is already in its last stage. The original scramble for procurement and supply is over. Production will soon settle down to the replacement of expendable materials. This means much copper, steel and other critical materials will be released for civilian production. The War Production Board will soon be releasing materials to what they consider essential civilian producers. Thus much revamping of plants will get under way long before the war actually ends. These markets must be watched very closely and one must be alert to the trend to be sure he is not passing up legitimate business that will continue to appear and increase for the duration.



Introducing

Mr. H. T. Bussmann

Vice President
Bussmann Manufacturing Company
St. Louis, Missouri

Accelerated Demand For Fuses Inevitable. Re-Conversion, New Construction, Industry, Replacements—All Large Volume Builders

The demand for fuses during the past two years has been staggering. Will that demand continue after the war? Naturally, the armed forces will no longer be a buyer

but many factors indicate that the demand should continue at a high rate after the conclusion of the war.

Factories, now engaged in war work will proceed to

re-convert for peace-time products and that process will call for huge quantities of electrical materials.

Daily the demands for many types of goods now unobtainable are increasing and the funds that the public is piling up to pay for such goods are increasing at an unheard of rate. Hence, the demand after the war for such articles as refrigerators, radios and household appliances will be so great that it cannot possibly be satisfied until we have had several years of intensive, full-capacity production.

The size of the replacement market also will be enormous. For instance, the automobile field including passenger cars, trucks and buses; the railroad field with rolling stocks being badly depleted; the farm equipment field including tractors, mowing machines, grinders and the like.

On top of this replacement market there will be construction of new commercial buildings, homes and dwellings to fill the needs that were felt and not satisfied before we entered the war, and the predictions of prospective building activities, made by well known authorities, really stagger the imagination. Further increase in rural electrification and expansion of the use of electricity on the farm also is bound to come.

Added to this will be the new industries that will undoubtedly spring up in the field of electronics, plastics, processed foods and the scores of others whose developments were accelerated by the war.

All of these things mean that the electrical wholesaler can reasonably expect the demand for fuses to continue at an accelerated rate.

Introducing

Mr. E. V. Sundt

President
Littelfuse Incorporated
Chicago, Illinois

Sees Extremely Active Demand For Fuses When Peace Comes And Lifts Restrictions. Wholesalers Can Look Now For New Markets

War-time America has witnessed an unimagined demand for instrument fuses, mountings, fuse panels, circuit breakers, signals, switches, fine wire work, innumerable accessories both standard and special.

This demand goes far beyond the immediate stupendous requirements of aircraft, ordnance, Army and Navy equipment, communications, etc., because every electrical instrument circuit in industry, laboratories, science, institutions, also is involved.

All these uses of circuit protection and new equipment are permanent. They will continue throughout peacetime. Many more new requirements will follow. The present is a period of astonishing development. The science of electronics for instance, has opened vistas of facilities, new powers and services hitherto beyond speculation.

Engineering for all these new uses, designing, redesigning, or the creation of entirely new products must engage every manufacturer in the field, with availability of needed equipment and materials one of the first things to be determined.

One thing is certain: Electrical wholesalers, jobbers, and salesmen will face an extremely active demand just as soon as peace is declared, and restrictions are removed. Let each of us do all in our power to help speed the day.

Introducing

Mr. O. H. Jung

General Manager
Trico Fuse Manufacturing Company
Milwaukee, Wisconsin

Electrical Protection And High Standards Always Demand Huge Quantities of Fuses. New Applications To Make New Markets

In a war emergency or in peace, fuses are, and always will be, in demand. They are the accepted method of electrical protection because of their time-tested and time-proven dependability, simplicity in design and fool-proof operation.

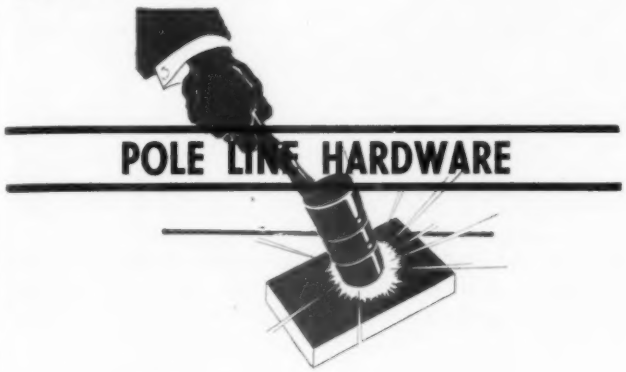
Today, the output of every man in our vital factories is closely linked with the electrically driven machinery.

Proper fuse protection is eliminating unnecessary shutdowns which slow up production, and prevents costly destruction of motors, wiring and equipment.

Tomorrow, when the pattern of things to come is cast in a world of peace and better living, fuses will continue to serve industry operating at top speed to supply the host of new demands for things that represent our higher living

standards and at the same time build future opportunity and security for everyone.

As always, the electrical wholesaler is a vital factor, sharing and profiting from continued improvements in fuse construction and the ever-widening markets created as new applications are unfolded.



Introducing

Mr. B. W. Johnson

Manager of Sales
Pole Line Hardware Division
Oliver Iron and Steel Corp.
Pittsburgh, Pennsylvania

Gigantic Load Building Program Certain. Wholesalers Working With Manufacturers Face Promising Future As Vital Gear

The expansion of electrical power during our war-time emergency has pushed output to a new high of over 4½ billion kilowatt hours. What to do with this after the war is a big problem, and it means that the electrical

industry is faced with the most gigantic task of load building in history.

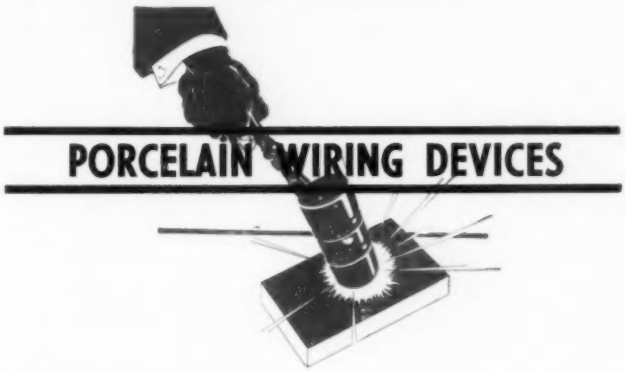
We in the pole line hardware industry, associated with allied electrical products, can predict a large volume of sales for some years after the war. Much time will be required to complete the program of private and federal agencies for new power transmission lines, maintenance, replacement and extension of existing lines. This should result in boosting the already accumulated backlog of orders.

Where does the electrical wholesaler and his representatives fit into this picture?

Just as the efficient services of the wholesaler are required in the war effort so shall his services be required in the post-war period. Selling is the medium of providing jobs. Wherever electric lines are extended, the wholesaler's salesmen will be found selling wiring, appliances, apparatus, and services to the consumer.

Greater than ever will be the necessity of complete coverage, prompt efficient service and personal contact. The wholesaler of the post-war period who has well laid plans will be ready and eager to carry adequate stocks to serve his customers.

The outlook for the manufacturer and electrical distributor working together is very promising for the future. As always the wholesaler will be a vital cog in the distribution of pole line hardware.



Introducing

Mr. John G. Loy

Secretary and Treasurer
Porcelain Products, Inc.
Findlay, Ohio

Porcelain Wiring Methods To Continue As Important After The War—As Before. Common Sense To Ban "Senseless Frills"

World War II has taught us that certain frills and trimmings which we used to think indispensable to our well-being are actually detrimental and now proving "good riddance." We find ourselves happier and better off physically, socially and economically without some of that superfluous clutter.

More specifically, referring to electric wiring, it has taken this World War to shock the wiring industry into the realization that all too many of the gadgets and trimmings heretofore considered an essential part of a wiring system really were introduced in the first place, not because of their intrinsic merit but because they provided something more to sell. They didn't add to the safety of the wiring system. They did not reduce its cost. They did provide more merchandise with which to load the customer's bill; more things to hang on the line.

Any lingering doubters should look over the record for the past 25 years. Take the most elaborately "protected" wiring system of recent years. Candidly now make a comparison with the wiring methods of 25 years ago. Check the fire records and the reports of fire underwriters. Remember we are discussing wiring *methods*, not wiring devices or appliances. When everything is shaken down, we believe you will find no valid arguments proving that the innovations of the past quarter century have made life safer from electric shock, nor have they made property safer from fire. The first approved wiring method—the porcelain protected system—offers economy,

safety, convenience, permanence unsurpassed by anything conjured up by the cleverness of our ultra-modern merchandisers. A sound rule is that the simplest things are the best things.

If you wish to consider solely the selfish profit angle aside from all considerations of safety, convenience or permanence, then remember that the simpler, more economic wiring system means more outlets per customer's dollar. The contractor may well remember that lower cost per installation means more total installations overall, and the more additions to old installations. The dealer may well remember that more outlets means more opportunities for the use and sale of appliances. The Public Utility may well remember that more appliances means greater wattage consumption. The electrician should remember that the porcelain protected wiring system means more man-hours of labor per dollar of material used.

From the above angle please visualize also another tremendous potential market after the war—rural electrification.

Let's keep in mind these few simple facts—(1) that wires run separately on insulators will safely carry a greater load than the same wires run together in a cable; (2) that the old bugaboo of drilling holes in joists and studding is dissipated by modern electric drilling appliances; (3) that greatest protection is needed at the point of most frequent human contact, namely the outlet, and it is at this point that porcelain protection attains its greatest efficiency; (4) that the unsurpassed record of almost a half century of safe service by porcelain protected wiring is its own best testimonial.

It is our sincere belief that the dominating position which the porcelain protected wiring system now occupies during these war-times is here to remain permanently after the war, because of the widespread recognition of the basic merit of porcelain wiring, plus a determination on the part of the wiring industry, backed by rudimentary common sense, to stay free from senseless frills.

Introducing

Mr. R. S. Edwards

President
Edwards and Company
Norwalk, Conn.

Astoundingly Great Sales Prospects Loom In Wide New Signalling Device Market Making It Major Line For Alert Wholesaler

Future prospects for selling signaling devices will be astoundingly great to those who have been prone to think in terms of "push buttons". The signaling needs of the allied armies and navies have opened everybody's eyes to the vital part they play in fighting a war . . . and those same people will come home expecting the convenience and ease of living, to which signaling can contribute so much in peacetime.

The costs of adequate signaling will go down. The small home will want convenient communication and protection as well as the larger homes. Architects and engineers will write signaling into specifications as a "must" instead of as a "hope".

The wholesalers will carry better stocks and be more conscious of the profit that signaling offers and that, in turn, will enlarge the market . . . one of the obstacles in the past had been the too long wait for factory delivery.

From cottages to large residences, country schools to colleges, stores to large industrials, doctors offices to hospitals . . . through all these channels the demand will multiply. The manufacturers will do better merchandising and selling *and* better designing and manufacturing. Hence, while we hate war, it is an ill wind that blows nobody some good and the war experience will build signaling up to a point where, in post war years, it will become a major line for the wholesaler.

Introducing

Mr. Haynes L. Everest

Vice President
Arrow-Hart & Hegeman Electric Company
Hartford, Connecticut

Beyond War-Time Strain Looms Prosperity With Prospects Brighter Than Ever Before And New Ideas and Markets To Explore

Swinging into the last quarter of 1943, it is only natural that electrical wholesalers inquire as to the outlook, and recognizing the splendid service they have rendered and the sacrifices they have made to further the war effort, it would be unfair to try and paint any picture that cannot be substantiated by facts.

The electrical material outlook is still somewhat obscure. The problems of raw material and manpower shortage affect this line the same as they affect other lines. However, from time to time there have been signs of some improvement in the supply of material and it is possible that better conditions may prevail in the not too distant future.

The high development of mechanized warfare has called for the development and large scale deliveries of new and, in many cases, highly complicated control devices with the natural result that facilities for the production of peace-time, or shall we say regular devices has had to be fitted in with production schedules as time, material and labor has allowed.

In this process of wartime conditions, the regrettable elimination of some everyday devices has been inevitable, but ever mindful of wholesalers' needs and problems, every effort has been and will be made to serve their requirements to the best of our ability and to sustain their well deserved place in the national distribution of electrical control material

We could and must reverse the old adage to read "in time

of war prepare for peace." There are, for the future, prospects of a greater electrical business than the brightest years of the past. There will be new and greater uses of electricity and new ideas and methods will be made available. The certain prospects for building and the upsurge in the demands for better living thru electricity is a guarantee that those wholesalers who have kept their spirit intact, despite the hardships that have unfortunately been imposed, will reap a reward that will be its own recompense.

Introducing

Mr. H. E. Seim

Vice President
The Bryant Electric Company
Bridgeport, Connecticut

To Get Future Large Orders For Staples
In Construction And Appliance Fields
You Must Cultivate Dormant Market Today

"Business as Usual" is perhaps as representative a statement for the Market of Wiring Devices as can be made either for the future or the present. These items, being a fundamental staple in the electrical field, are an essential in the war endeavor or peacetime activities. The sales volume is purely a reflection of the degree or the extent to which other consuming branches of industry or commerce participate in the national economy.

The present markets for military, maritime and industrial applications, for repair, maintenance and construction are very favorable and worthy of exploration by every wholesaler.

The future with its rehabilitation and restoration of civilian undertakings is just a question of the supply keeping up with the demand. The progressive manufacturer has plans for providing the supply and it is up to the wholesaler to get his share of the demand.

Any logical planning by the electrical wholesaler should embrace the maintaining of proper stocks to provide adequate customer service; the education of his organization to recognize the merits of this "bread and butter" line; the cultivation of present dormant markets which have future potentials, such as construction and home appliances; the building of prestige and good will thru attention now to the customer of tomorrow; the courage to extend credit and the creation of a type of market which will provide a reasonable return for his services and investment.

Meanwhile, the opportunities of today's industrial market, fluorescent replacements and other fields in which it is permissible under government regulations to secure needed supplies, should not be overlooked.

Introducing

Mr. E. K. Moore

Vice President
Harvey Hubbell, Inc.
Bridgeport, Connecticut

War Demands Must Have Clear Right-of-way
But Real Slackening In Government Buying
Will Bring Large Industrial, Other Orders

There is no definite indication that restraints will be lifted in the near future on the use of critical materials for the manufacture of wiring devices. This means that no immediate relief is in sight for the wholesaler to materially rebuild his inventory of these items.

At present, Government and war industry demand for wiring devices is still brisk and will probably continue so for a time. If Government demand slackens, such loss in volume will be readily balanced by demand from industry and other sources.

Thus, the prospects for the wholesaler of continued sales of wiring devices for the last quarter are as favorable as at present.

The war has required us to furnish standard, modified, and new design wiring devices in very large quantities which has taxed our facilities. We have been able to service these orders, although deliveries have been generally delayed. However, this delivery condition is improving.

All of this war business has been channeled through our electrical wholesale distributors and we want to compliment them on the service they have rendered to the war effort and to us during these trying times.

In the coming readjustment period, we are certain that the electrical wholesale distributor will be a vitally important

and helpful factor, and our plans call for a continuance of a strong selective wholesaler distributor sales policy.

Introducing

Mr. C. L. Nicholson II

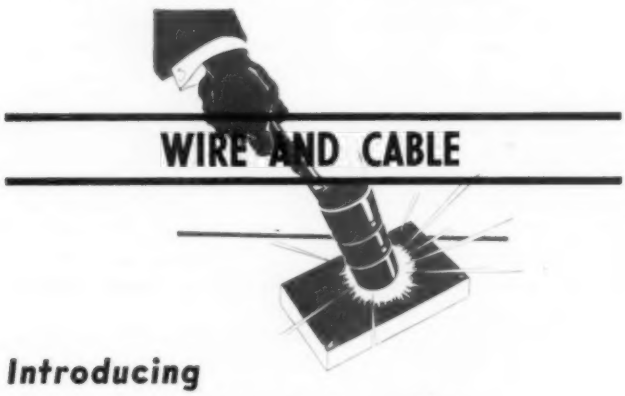
Secretary and General Sales Manager
Pass & Seymour, Inc.
Syracuse, New York

New Commercial, Residential Construction, Modernization And Repairs Will Sky-Rocket Demands For Wiring Devices After The War

The general adjustment period after the war will be followed by a volume of wiring devices which may well reach record proportions. The construction of new buildings, both residential and commercial, as well as a pent-up demand for rehabilitation and repair of existing structures, both of which have been seriously curtailed during the war, indicate that the opportunities for the sale and installation of wiring devices will be very great.

Government limitation and conservation orders during the war have left the demand unsatisfied for wiring devices in general. The substitutions which have been made are not altogether satisfactory for longtime life, and the replacement of these devices in itself will be a considerable market. Wartime construction in many instances can, at best, be considered only as temporary, and unsatisfactory as permanent structures; and the desire for new and better structures in which to live or work may well reach record proportions. The desire to own a new home will probably be aided by liberal financing plans available to all.

New after-the-war structures will feature convenience, dependability and value. Combination device wiring will serve this purpose better than ever before and will increase the service which a good electrical system, in all types of structures, will be expected to supply. Great opportunities lie ahead for contractor and jobber in the post-war period in the sale of wiring devices and their installation.



Introducing

Mr. W. E. Sprackling

Vice President
Anaconda Wire & Cable Company
New York, New York

Electrical Industry Sure To Feel Impact Of Huge Consumer Spending. Must Study Now Who Will Spend The Money—Where, When, How

So much is written about post-war planning these days that you find yourself spending altogether too much time separating wheat from chaff—helpful hints from hot air and hokum. (God forbid my adding to the latter). But, we *must* read; we *must* think; we *must* plan.

Today is none too soon to start laying your foundation for post-war business. If residential building is to be the big factor, as it now appears that it will be, who will be the promoters, bankers, builders, contractors? Who will do the job in your town?

If utilities are planning to build residential loads through increased utilization of electric current in the home, are you in there planning with your utility so that you will get your share of the going business?

If industries are to re-habilitate—change from war to peace-time goods—do you know about it? Who they are—and what it means?

There is no doubt that the people of this country are going to have a lot of money to spend after the war—and it will be spent on houses, autos, appliances, consumers' durable goods. Most of this affects the electrical industry. As the electrical industry goes, so goes wire and cable. That's axiomatic because you have to have wire to carry the current. So—wire and cable will continue to be a major line for wholesalers as always, and almost every order for wire and cable carries with it orders for allied electrical supplies and equipment.

The big thing is to know where the business will be—and who will place it—and that the persons who place it know you and your products. Today is none too soon to start working.

Introducing

Mr. Carl P. Brodhun

Sales Manager
Hazard Insulated Wire Works Division
The Okonite Company
Wilkes-Barre, Pennsylvania

New Era Of Prosperity Seems To Be Ahead. Big Housing, Commercial, Rewiring Demands Wire Manufacturers Ready For Wholesalers

So far as immediate prospects are concerned, I am sure the pattern is now very well defined, and there probably won't be much change for the duration.

One thing has been forcefully demonstrated "Wholesalers are Necessary!"

There have been many case histories showing how electrical wholesalers, thru their ability to supply many varied items from stock and obtain others thru their trade connections, were able to save days, weeks, and even months on vital military construction jobs. They have done a splendid job on supplies for maintenance. In other words, the electrical wholesaler has helped to get the immense war machine going and is helping to keep it running and the War Production Board has on many occasions indicated that they are doing a noble job.

For the future, while there may be some hesitation in business when the glad day comes, there seems to be no question but that after the war is over America will have a

real job on its hands to catch up on the dammed up demand for new homes, for adequate wiring in existing homes, for rewiring office buildings and business establishments, and for electrical appliances of all kinds.

Max McGraw, president of NEMA, very eloquently said "When I think of the pent-up demand for electrical wares alone, I wonder how the industry will ever be able to supply it."

The wire and cable industry, fortunately, can convert from war to peacetime products practically over night. Its greatly expanded capacity will undoubtedly be taxed to supply all the needs of the vast housing program that may call for over a million units per year for at least ten years and take care of the varied needs of the country too.

A new era of prosperity seems to be ahead of us after we finish our present project.

Introducing

Mr. E. L. Robinson

Vice President
Crescent Insulated Wire & Cable Company, Inc.
Trenton, New Jersey

Re-stocking Contractors, Industrials With Wire And Cable Will Produce Large Volume. Wholesalers Should Get Set For That Job

The use of crude rubber in the insulation and jackets of commercial types of wire and cable has been prohibited by WPB action, as of September 1st. Government synthetic rubber (Buna "S" and Neoprene) has been substituted.

The government synthetic program is progressing so well that there will be available sufficient synthetic rubber or reclaimed rubber for the manufacture of cords, wires and cables, for which copper is allocated. Although the quality of the insulation has been cut by WPB regulations to save rubber, the resulting wire is one that will be safe and satisfactory for the service intended. The use of Neoprene in Portable cord and cable jackets results in a superior cord; it being oil resistant and sun-proof.

What this means to the wholesaler is that he should have no hesistation in stocking the types of rubber covered wires, cables and cords that have shown the most rapid turnover in the past.

Although considerable strides have been made in the development of new types of wire and cable, it is not likely that these will be items that the wholesaler will find it advisable to stock during the first six months to a year after government restrictions are lifted.

There is a tremendous potential demand for wire and cable for the rebuilding to a minimum working basis the stocks in the hands of hardware and electrical dealers, contractors, most industrials, utilities, as well as electrical wholesalers.

Shortly after government restrictions on the manufacture of wire and cable are lifted, there will probably be a scramble to get wire. Those wholesalers who anticipate this demand by placing orders now for the fast-moving standard items with their suppliers will have the "jump" on the field.

Introducing

Mr. F. W. Burmeister

Fan Sales Manager
Robbins & Meyers, Inc.
Springfield, Ohio

Visualizes Vast Ventilation & Fan Market. War Workers Will Want War-Plant Comforts. Wholesaler Must Build Now—To Cash-In

There will be plenty of electric fan business when the war ends. People have been waiting to buy. And old fans have been wearing out. There will be a natural revival of the buying impulse—and the purchasing power will be there to back it up.

In addition, we believe that new forces will operate to create a demand for fans and ventilating equipment far above the prewar level. Thousands of war workers in air-conditioned or fan-equipped factories or offices will want similar comfort at home—and we think, too, that they will be educated to want fans of larger size and higher quality than the average home fan of prewar days.

Then there is the growing interest in more complete and

livable homes—not necessarily the "miracle" homes that we read about, but homes adequately equipped, from kitchen to attic, for everyday comfort. That should help the market for kitchen fans; and it should increase the demand for attic and window ventilating fans that was already well established in the south and making headway in the north when the war started. The reopening of stores and other establishments closed for the duration will also stimulate the sale of large fans.

We see every reason for taking an optimistic view of the

post-war opportunity in this field. It is certainly one that no electrical wholesaler can afford to neglect.

Introducing

Mr. C. W. Dexter

Advertising Manager
Ilg Electric Ventilating Co.
Chicago, Illinois

War Workers Know Value Of Good Air—
Will Help Build Huge Post-War Demand In
Domestic, Commercial, Industrial Markets

Want-ad sections of daily papers in Metropolitan cities abound with "Help Wanted" ads, where "Pleasant Air Conditions" or "Well Ventilated Workrooms" are featured as an inducement to prospective workers.

This means that in these days of keen competition for workers industry has found out, that good ventilation is one of the most important requisites. It is reasonable to expect that industry may be expected to remember permanently that when people have once enjoyed working in good air conditions, they naturally will never be satisfied with poor air conditions. That fact naturally will have a lasting beneficial effect on the the entire market for ventilation.

It is also not difficult to picture what will happen to sales of ventilating equipment when it once again becomes available to the commercial market.

With much previously installed equipment now worn out, with ventilating standards appreciably higher than when we went into the war, millions of dollars will be spent for new and larger ventilating fans.

The home market also is a tremendous field. Millions of homes that have electric refrigeration, do not have kitchen ventilation. The home-cooling attic fan and the portable window types of fans were just beginning to be volume builders, when this war began.

Now is none too soon for the forward looking electrical wholesalers and their salesmen to begin working with their electrical contractors and the dealers, for developing a careful and systematic campaign for selling fans and ventilating equipment, just as soon as such goods are available once more. Intensive and intelligent selling will prove that these are real volume builders and profit makers.

Introducing

Mr. Fred C. Shepler

President and General Manager
Shepler Manufacturing Company
Pittsburgh, Pennsylvania

"Home-of-Tomorrow" Owners Will Demand
Fans, Ventilation, Air Conditioning, Heaters.
Tremendous New Demands Being Created

We are all planning for the Post-War days,—engineers, designers and architects are looking forward to drastic changes in home construction. The demand for new homes will be tremendous in all price classes with an abundance of money to spend for necessities as well as the luxuries that make a house a "home." The modern home of tomorrow will include proper ventilation, air cooling and air conditioning, as well as auxiliary electric heaters in the bathrooms, dressing rooms, nursery and living quarters that are hard to heat.

The kitchen, the housewife's workshop, should be properly ventilated with a kitchen exhaust fan to exhaust the excess heat accumulated, grease, fumes, steam and the unpleasant cooking odors that may be prevented from passing through the rest of the home. An exhaust fan in the game rooms and bathrooms will also make a home a more comfortable place in which to live.

Window air conditioners for bedrooms to exhaust the hot sultry air collected during the day will give the home-owner and their families a more restful sleep. More luxurious air conditioning and air cooling systems are being designed for the modern home which will give the home-owner a life time of comfort for only a small cost compared to other luxuries that last only three or four years. If this comparison could be made to the home-owner, more consideration would be given to these added comforts.

Auxiliary electric heaters will be in demand more than ever before, for the bathrooms, nursery and dressing rooms for those chilly days in the Spring and Fall thus making it unnecessary to heat the entire home, or when added heat is needed when sickness or other emergencies arise on those zero days. Then too, in addition to their many uses and conveniences, they also reduce the heating bill of the main plant sufficiently to cover the cost of the installation of the electric heaters.

These items will be virtual necessities in the Post-War Era and will definitely help to make the house of today "the home of tomorrow." If the first building contractors in the field, are sold on these added features for his new homes, the other contractors must follow to meet competition.

Introducing

Mr. R. L. White

President
Landers, Frary & Clark
New Britain, Connecticut

Stiff Fighting For Consumer Dollar Ahead.
Wholesalers And Dealers in Front Trenches—
Must Be First Over The Top To Win Out

Manufacturers and distributors of electrical household appliances should not look forward to a fine post-war business just because of the new homes to be established and the growing replacement demands. The NEED will exist beyond question but our industry must compete for the

available purchasing power with the manufacturers of automobiles, furniture, house furnishings and absolute necessities, such as clothes, shelter and food.

If we electric appliance people are going to get our share of business we must fight for it, and that means clever, aggressive selling combined with attractively priced merchandise. The sellers market that has existed for several years will turn into a struggle for sales almost over night. New appliance manufacturers will undoubtedly spring up—but the real immediate post-war competition will be between our industry and others for the consumers' dollar.

We at UNIVERSAL know that the electrical appliance industry cannot take life easy because people will need our goods. We are actively working on plans for better merchandise and better merchandising, but the wholesaler, the retailer, and their salesmen are the ones who will be in the front line trenches. They have the job of selling the consumer first, before he has spent his money for automobiles, new furniture, or his many other wants. In the post-war world we see plenty of opportunity, but the salesmen must do the knocking at the door. Right now we all have a war to win but it is not too early to make plans for future selling, including lists of prospective customers and their probable needs.

Introducing

Mr. W. E. O'Brien

Vice President
McGraw Electric Company
Elgin, Illinois

Vast Market For Appliances Waiting—
Wholesalers Cultivating Future Buyers Now
Will Surely Cash-In Handsomely Then

Homemakers are appliance-hungry and becoming more so daily. Newlyweds who before marriage took for granted the time and labor saving convenience of the appliances in their homes cannot now get along without them—and still like it. This group alone comprises a vast army of customers, not just prospects, waiting, to swoop down on dealers' stocks the moment that appliances again appear on their shelves.

The new rich, the former "have nots", certainly will not plan to come out second best. They too will be clamoring for the comforts and conveniences they may previously have envied in the homes of their better off acquaintances. The replacement market, already two years older since Pearl Harbor, offers another source of volume.

How do I know that this demand is mounting? Because I'm sure that the pleas which reach me day after day, by telephone, telegram and mail, to assist in locating a Toastmaster Toaster, are only isolated instances of the pent-up desire and demand for them.

The electrical wholesaler and his salesmen although busily engaged on war time assignments, can be building now for post-war business. Consider the example set by energetic and progressive manufacturers in all fields, including our own, who have maintained contact with their customers through consistent advertising programs showing that they are thinking and planning for the future.

Wholesalers' salesmen should likewise keep in contact with their appliance customers and continue to show the interest in them, which eventually will be repaid in post-war appliance business. Wholesalers will find it of advantage to be able to assure their appliance customers that when things do break loose, they will again be able to serve them with the same nationally known appliance lines which were a former attractive source of profit, which provided good turnover and made satisfied customers.

Introducing

Mr. R. A. Bradt

Vice President
The Maytag Company
Newton, Iowa

Don't Take Anything For Granted—Be Sure.
New Conditions, New Competition Ahead.
To Survive Must Watch Influences, Trends

Let nobody make the mistake that the immediate post-war market is going to be a pushover because of all the so-called "pent up" demand. There will be tremendous purchasing power and big demand, of course, but don't forget that these will be affected by the circumstances as they will exist at that time, not under all of the optimistic influences that are existent today.

Competition will, no doubt, be keener than ever before, not only within the electrical appliance industry, but particularly from all other industries,—many of which will be newcomers in the field, but all battling for the consumer's dollars.

There is but one way to anticipate this—plan now to be ready when that time comes. It is true that you may not be able to plan on some things past a certain point because of the uncertainties of new influences at work. But the best post-war planning you can do is to be constantly alert to those influences so that you know what they are. Then when the time comes it won't be difficult for you to act quickly, confident that you are basing your plans on fundamental reasons. A good rule to follow in making your plans for post-war selling is "Don't take anything for granted—be sure."

Introducing

Mr. R. M. Oliver

Proctor Electric Company
Division of Proctor & Schwartz, Inc.
Philadelphia, Pennsylvania

Appliance Outlook Excellent But Wholesalers Must Work With Manufacturers For Orderly Distribution, Sound Selling

It will not require 300 words to give you our personal opinion of the future prospects for selling electrical appliances.

One word will do the trick and that word is "excellent."

The pent up demand will, in our opinion, produce a flood

Yes, we're still specializing!!

We're helping to win the war by doing the job we know best—making friction and rubber insulating tapes.

Of course, those distinctive members of the ACCURATE tape family—ACCURATE BLUE TAPE — ACCURATE SPEED-SPLICE — ACCURATE SUPER SERVICE FRICTION TAPE and ACCURATE A.A.R. TAPES will be missing for the "duration" because Uncle Sam is conserving crude rubber.

So in a sense we're specializing even more than we did in peacetime—specializing in Federal Emergency Specification friction tape (E-HHT-101a) and rubber insulating tape (E-HHT-111a) and those old reliables—ACCURATE FRICTION TAPE and ACCURATE RUBBER TAPE.

Naturally, the demands on us for quick delivery of large quantities of tape by the Army, Navy and Maritime Commission are great.

ACCURATE is operating on the basis of "first things first" and we know we can count on your kind indulgence and cooperation when our deliveries are not as prompt as you would like them to be.

You can help a lot by giving complete details regarding priority ratings and contract numbers and remember . . .

SPECIFY FOOTAGE NOT POUNDS

ACCURATE MANUFACTURING CO.

GARFIELD, NEW JERSEY

of orders, the like of which the industry has never seen. We firmly believe that the problem will not be a selling problem in the common connotation of the word. Rather it will be a *distribution* problem. For the reason that the industry has a grave responsibility in the use it makes of the appliances it can produce.

I have just returned from a trip to the Middle West and have been in contact with a great many wholesalers. Already there is talk of the former ruinous practices of "I can get it for you wholesale" selling and the cut throat, dog eat dog competition with which the industry was infected before the war. Certainly manufacturers now have an opportunity to do something about this if they will.

The industry can either get back into the electrical appliance business on the right basis or it can allow itself to fall prey to the ailments of the past. It is entirely up to the manufacturers and wholesalers with probably more of the burden of proof on the wholesalers than the manufacturers, for the reason that they are in closer contact with retailers and for the most part provide the only channels through which the merchandise can flow.

If manufacturers and distributors join hands in taking the merchandise that they are permitted to make and determine now that it will reach the hands of ultimate consumers in an orderly manner, the war period will have produced one tremendously beneficial result.

We are certain that the industry can sell all of the appliances it can make and more. If it approaches its problem properly the future prospects for selling electrical appliances are limited only by the facilities of the manufacturers to produce them.

Introducing

Mr. J. B. Swartzbaugh

Secretary Treasurer and Sales Manager
The Swartzbaugh Manufacturing Company
Toledo, Ohio

Greatest-Ever Appliance Market Ahead—
Wholesaler Can Hold Place Only Through
Low-Cost Sales & Merchandising Service

For about a year after peace arrives I anticipate that wholesalers will do a wonderful electrical appliance business. Then the honeymoon period of inventory replacement will begin to taper off, and new competitive forces that have been gathering behind the scenes for several years will break into the open. One of these forces is the drive to reduce distribution costs.

As a consequence wholesalers may be compelled to improve their sales procedure in order to hold their manufacturing and retail accounts.

The wholesaler who can perform a genuine sales service for his suppliers and retailers can lick the pants off his "old line" competitor, and can grow larger and stronger right in the midst of rapidly changing economic conditions. This means good sales management and salesmen who are real merchandisers.

The market for electrical appliances will be greater than ever, but the problems of competition and sales management that face everybody engaged in this business should make us resolve to prepare for the worst and be happy if the worst somehow never seems to arrive.

Introducing

Mr. J. H. Ashbaugh

Manager, Electric Appliance Division
Westinghouse Electric & Manufacturing Company
Mansfield, Ohio

Sees Bright Appliance Sales Prospects,
Plus Keen Battle For Consumer Dollar.
Must Watch Cost, Apply War-Taught Lessons

Manufacture of consumer durable goods has been stopped for a year and a half. The millions of appliances in service in the homes are a year and a half older. Many men in service will come back and want to establish a home. All of which points to bright prospects for the future of the electric appliance business. Counteracting these will be high taxes and the needs and desires of the public for items other than electrical appliances. Competition among all lines will be keen. The cost of distribution as well as the cost of the product will have to be examined carefully, but the experience of both the distributors and manufacturers in the past year and a half should point the way to better efficiencies.

The record industry as a whole as made in supplying the needs of the Army and Navy is difficult to describe. This record can be duplicated if industry is given a chance to do so without too much restraint from government.

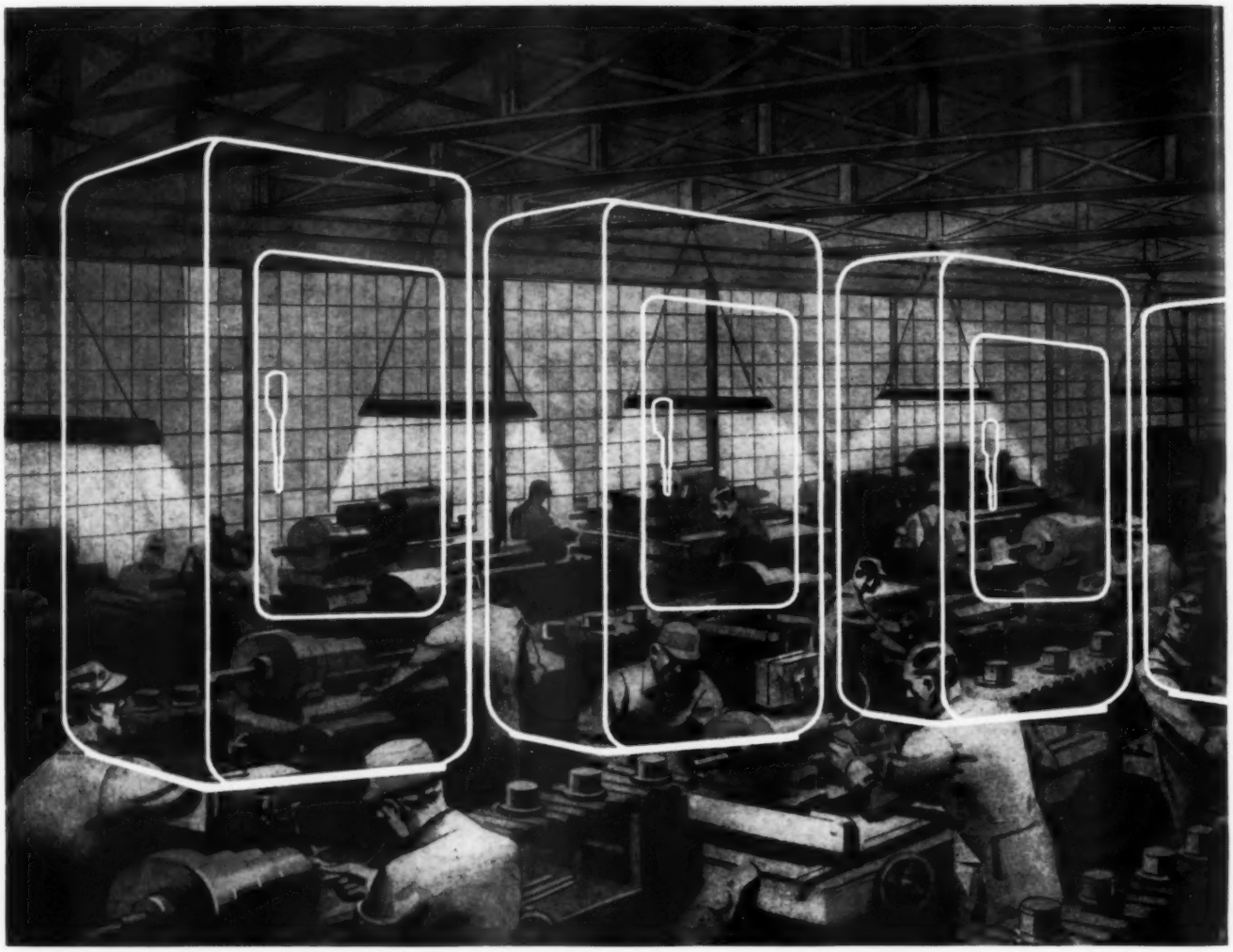
Introducing

Mr. W. E. Cranston

Vice President and General Manager
Thermador Electrical Manufacturing Co.
Los Angeles, California

Post-War Consumer Will Want Lower Prices.
Manufacturers Can Oblige If Wholesalers
Do Full Distribution Job At Lower Cost

Consumers are expecting lower costs of electrical products after the war. This thinking is largely due to the tremendous publicity of the faster and improved technical



P-A-X Will Continue to Speed Production

. . . when Refrigerators Replace Machine Guns

In scores of plants engaged in full-time production of material and equipment for the Armed Forces, P-A-X automatic telephones are today helping to get things done faster —eliminate delays and errors in the all-out drive for Victory.

And for the Armed Forces, too—at fighting bases, supply depots and training camps P-A-X is providing swift dependable communication — getting faster action, better coordination.

ELECTRICAL WHOLESALERS IMPORTANT!

Today, new P-A-X equipment and other Automatic Electric intercommunication systems must be reserved for the fighting forces.

But "tomorrow," when conveyor lines are jammed with refrigerators instead of machine guns—new and better Automatic Electric equipment will be available to help *every* business reduce costs and errors, save time and motion, coordinate the efforts of men and machines.

HERE IS HOW P-A-X IS HELPING TO SPEED WAR PRODUCTION

- Saves time for all employees
- Stops walking and "visiting"
- Reduces errors and delays
- Gets and gives vital information quickly
- Improves executive supervision
- Co-ordinates work of all departments

AUTOMATIC ELECTRIC

PRIVATE INTERIOR TELEPHONE SYSTEMS

Distributed by: **Automatic Electric Sales Corporation, 1033 W. Van Buren Street, Chicago, Ill.**

Sales and Service Offices in Principal Cities

In Canada: **Automatic Electric (Canada) Limited, Toronto**

processes developed during the war, which will be advantageously used for consumer products. Many people in the electrical industry are of the same opinion.

Improved technology has eventually been reflected by lower costs, but the whole fact can only be accomplished by also enjoying lower costs of distribution, due to more efficient and newer methods. The day of the "broker" depending on factory stocks is gone. The modern wholesalers must do what the early generation did—sell the line and carry ample stocks of non-competing lines; his men not "ordertakers"—but real salesmen. By doing this he can eliminate most of a factory sales cost, which will be reflected in the price to his customers and the ultimate consumer. The factory feels more secure in planning production on the most economical basis—they both go after dollars of profit and not percentage discount as the big inducement.

The modern wholesaler,—a distributor of products vital to his customers,—is literally a direct factory contact ever striving to keep his customers advised and competitive, because regardless of the steps, the ultimate consumer will "write the ticket".

The wholesaler is about to face a critical period in his history; if he will modernize and see the change coming, as most of them will do, great opportunities on a strong foundation await him. If he cannot justify his existence on economics alone, his stay is limited on the sale of many electrical products.

Introducing

Mr. H. E. Osmun

Vice President
Centralab
Milwaukee, Wisconsin

Excellent Radio Sales Prospects Include Vast New Industrial Electronics Market. Expects Speedy Re-conversion To Normal

I believe that members of the radio industry can feel more truthfully optimistic about expanded sales prospects after the war than the members of most any other large industry.

Manufacturers of this type of equipment have been particularly fortunate in that their wartime products are the same or closely related to those products they will manufacture after the war. Thus no major changes in plant tooling and engineering will be necessary to quickly build up peacetime production.

While we are manufacturing products now closely allied with those previously manufactured, the critical nature of the equipment has promoted many changes in designs and production methods in improving the overall quality of the product, and those methods will be essentially retained in post-war production.

We all know that great advances have been made in the laboratories in adapting ultra high frequencies to secret wartime applications and that this increased knowledge will fit radio type equipment to a multitude of future industrial operations. Most every large manufacturing plant in the future will have a staff of radio or electronic engineers who will build specialized equipment for their particular application.

The overall additional requirement for radio parts will be very large, but since the individual company requirements will be relatively small, the necessary parts or complete equipment will logically be purchased from the radio parts wholesaler rather than direct from a manufacturer. Industrial sales should represent a large percentage of the total radio parts jobbers business after the war.

Introducing

Mr. Ben Abrams

President
Emerson Radio and Phonograph Corporation
New York, New York

Huge Demand Backlog For Radios Grows Daily. Equitable Allocation Big Problem. Wholesalers Should Survey Market, Gage Dealer's Needs

I should like to go on record with the statement that we have no definite blue prints or hard and fast rules for post-war manufacturing and distribution. There has been no diversion whatsoever of our engineering or designing staffs from government work for purposes of peacetime operations. We are not unmindful, however, of the great opportunities which lie ahead and we are confident that the lessons learned in wartime development and production will enable us to reconvert quickly and efficiently for vastly greater civilian activities when the "go ahead" is sounded.

As the war goes on and as shortages of repair parts and materials become more acute, the number of working radios in homes will decrease. Other obsolescence factors will accelerate the process—at the rate of several millions of sets per year. Also, the backlog of demand for new radios grows larger every day and all of these conditions are developing a market situation which should bring about an overwhelming demand for radios for several years to come.

In all likelihood there will be no serious problems involved in the cash or credit consumer selling of any new or pre-war type of receiver. The major difficulty will be an equitable allocation of newly manufactured goods to distributors and dealers so that those concerned can gradually catch up with demand.

Because of this, it seems to me that distributors and

U. S. Bombers Set Fires at a Japanese Pacific Base

Herald Tribune—Acme (telephoto) from United States Army 7th Air Force.

Smoke rising from shore installations and the phosphate works on Japanese-held island, somewhere northwest of Guadalcanal, during raid by Liberator bombers, one of which appears at the upper right of photograph.

BEHIND TODAY'S HEADLINES!

Today—as never before—*fighting* production must stand squarely back of America's fighting men.

Behind every headline there is a clear-cut indication of the need for more and more planes, guns, ammunition!

In this war of materials, the Bryant Electric Company and electrical wholesalers are contributing their full facilities, providing electrical devices for new factories, helping re-build and modernize older installations.

Typical of the items supplied is Bryant Fluorescent Starter FS2, 15-20 Watt; FS4, 30-40 Watt; FS6, 100 Watt.

Recommend this starter to provide proper pre-heat for lamp starting, to give longer lamp life, to reduce blackening. Your customers will thus obtain more dependable starts in cold weather, have less trouble at low voltage.

BRYANT
SUPERIOR WIRING DEVICES

Now more than ever... every outlet deserves a reliable Bryant device. Sold through electrical wholesalers.

THE BRYANT ELECTRIC COMPANY • BRIDGEPORT, CONNECTICUT

NEW YORK • SAN FRANCISCO CHICAGO • LOS ANGELES

dealers should survey their own market potentialities and determine as nearly as possible what their local merchandising requirements may be. When they learn how they might be affected in given circumstances they will have some motion of the steps they should take.

There will, of course, be some new designs of radio receivers when civilian production is again authorized, but to expect revolutionary changes immediately is purely fanciful thinking. It is expected that Emerson's plans and operations relating to distributors and dealers will, in general, be similar to those which functioned so successfully before Pearl Harbor.

Introducing

Mr. Lee McCanne

Assistant General Manager
Stromberg-Carlson Company
Rochester, New York

Boom In FM Radio And Sound Sales To Mark First Phase In Post-War Prosperity. Second And Third Phase Equally Promising

We are engaged 100 percent in war production, and it keeps us busy night and day turning out 12 times the value of our peacetime production with only three times as many people. Nevertheless, it is pleasant to look ahead to the time when we can once more be serving the wholesale and retail trade with fine radio sets and sound systems.

We began building up our research staff about two years before war was thrust upon America. We believe that radio sets and phonograph combinations, television and sound systems present an adequate future market to help in keeping electrical wholesalers and salesmen busy.

For these, our normal channels of distribution, we already visualize at least three phases of postwar selling opportunities, spaced perhaps a year apart.

The first phase will be not too different from the prewar radio and sound system market. This will be the time when the boom in FM radio sets and phonograph combinations, nipped in the bud by the war, will really come into its own. Provided we don't cut our own throats by enticing our prospects to wait for "dream sets" and other forms of crystal gazing, the tremendous potential demand and latent purchasing power now being stored up in savings will be released with a rush for FM radios and phonograph combinations at a good average unit of sale.

Before the war, there was much talk of matching FM's staticless reception and high fidelity with ordinary AM broadcasting, moved into a high frequency band. This is now seen to be idle talk, however, and virtually all postwar manufacturers will go into FM set production because even if AM could match all of FM's other advantages, it still would not have FM's freedom from interference between stations, and everyone who sold prewar radio in America knows that we had too many stations on the dial for nighttime AM listening.

In other words, while $10 for an AM set might be an unsatisfactory investment, $200 can be a sound investment for a set that does justice to FM, and more for a good FM phonograph combination.

This first phase is also the time when wholesalers and dealers will begin to cash in on the tremendous interest in sound systems—for schools and hotels, as well as factories—that must remain unsatisfied during the war.

Phase II will find radio and sound equipment seeking its rightful place in the post-war home, the post-war private plane and autogyro. In addition to the tremendous airplane industry that has been given a staggering impetus by the war, we must remember that national and municipal post-war plans call for the erection of many small homes and pre-fabricated cottages in addition to public buildings. Radios may well become part of the package when a pre-fabricated home is delivered, built in like the automatic furnace and refrigeration.

Phase III should bring television, and perhaps see facsimile established as full-fledged industry. Fortune Magazine for August lists three classifications of those who are interested in television: The irreconcilables who have little or no investment in television research, perhaps have huge investments in other news and entertainment services, hence want to see television delayed; the cash-in-quick group which has a sizeable investment in television research and want to go ahead with it on the prewar standards; and the progressive scientists who want to see television given a chance to find its right place on the dial, a satisfactory degree of definition and size of picture, and perhaps color television before we launch the huge investment which nation-wide television apparently must involve. Here at Stromberg-Carlson we count ourselves in this third group, yet we believe that, properly developed and promoted, high definition television can become a household requirement within a few years after the war.

Tucking the second and third phases away in the back of his mind, we suggest that each salesman rivet his attention firmly on Phase I—the return of the FM cabinet radio and radio-phonograph. That is his best immediate post-war profit opportunity, and making profits is the way to build a sound business structure for handling the tremendous volume turnover that lies ahead in subsequent phases.

Introducing

Mr. Ernest H. Vogel

Vice President in Charge of Sales
Farnsworth Television & Radio Corporation
Fort Wayne, Indiana

Scramble For Radios, New FM, Short Wave, Electronics And Television Markets To Give Wholesalers Greatest Sales Opportunities

I am certain that no one can view the great possibilities in the broad electronics field without feeling intensely optimistic concerning the sales possibilities in our industry in the period to follow the war.

There is every indication that radio and radio-phono-

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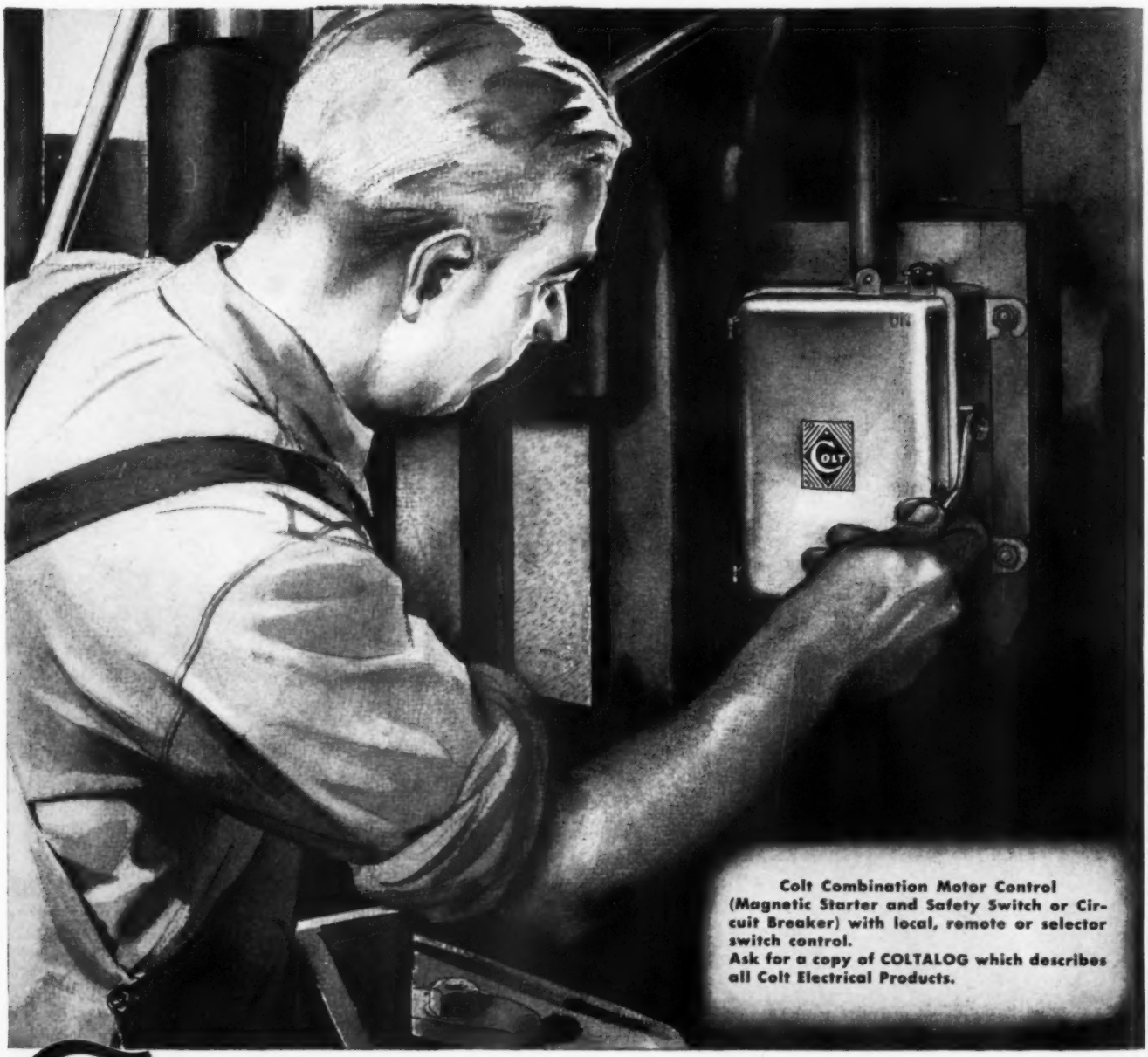
Colt Precision

The smooth, dependable functioning of Colt Revolvers and Automatic Pistols is an accepted feature equally assured in precision-built Colt Electrical Products.



Colt Combination Motor Control (Magnetic Starter and Safety Switch or Circuit Breaker) with local, remote or selector switch control.
Ask for a copy of COLTALOG which describes all Colt Electrical Products.

COLT *Engineered* MOTOR CONTROLS

COLT'S PATENT FIRE ARMS MFG. CO., ELECTRICAL DIVISION, HARTFORD, CONN.

graphs, with and without frequency modulation, will sell in increasingly greater volume immediately after the war. The market for the replacement of present receivers will be tremendous, considering only the accepted radio obsolescent age of seven years. When we consider the plus obsolescence factor that will be injected by frequency modulation and improved short wave service, we can project a potential volume greater than ever experienced in our industry. This surely means sales opportunities and turnover for distributors and dealers.

In addition, we can anticipate that new services, including primarily television, will, within a reasonably short time, open up great new fields that will challenge the sales imagination, ingenuity and energy of wholesale and dealer organizations. Further, it seems reasonable that wholesalers and dealers, in proper time, will probably have many opportunities in the sale of electronic devices and services resulting from the greatly extended war research and development in electronics. While many such devices may have limited applications, perhaps for industrial purposes only, there undoubtedly will be some items and services that might naturally find distribution through wholesalers and dealers and considerably augment the selling possibilities of these groups in the future.

It is obvious that the radio industry has tremendous future potential sales prospects. Every analysis by economists, who are studying the post-war possibilities indicates that radio will have one of its greatest periods of expansion in the near future. Certainly if this is true, great sales prospects lie ahead for the manufacturer, the wholesaler and the dealer in the business in which we are engaged.

Introducing

Mr. T. A. Kennally

Vice President in Charge of Sales
Philco Corporation
Philadelphia, Pennsylvania

Greatest Opportunity, Greatest Challenge, To Be Faced In Radio And Appliance Field With Tax Collector Among New Competitors

Sales opportunities in the radio and electrical appliance fields after the war will offer a greater opportunity and present a greater challenge than ever before. Now that production of most electrical products has been stopped for a year and a half, people appreciate how much their radios, refrigerators and other appliances mean to them. They are going to want to replace those that have worn out, as soon as they can, and the millions of new families that have been established must be outfitted when production is resumed. War research and engineering will make possible new improvements and refinements that will add greatly to the appearance and efficiency of almost everything electrical.

These opportunities will not be automatic, however. There will be a great many new manufacturers in the appliance business. During the war, also, people are learning how to make things last a lot longer than formerly, and this knowledge will be carried over into the post-war period. Adequate service facilities will be an important consideration with many prospective customers.

Finally, even when the war is over, the huge government debt will be with us and the level of taxation will be higher than we even imagined a few years ago. So money that hitherto could have gone for new appliances will be needed for the tax collector.

That is why the outlook presents both an opportunity and a challenge. People are going to want what we have to sell, but the competition for the public's favor is going to be keener than ever before, so it is up to us—the manufacturers, the wholesale distributors, and the dealers—to give the greatest possible value for every dollar entrusted to the electrical appliance industry.

Introducing

Mr. E. A. Tracey

President
Majestic Radio & Television Corporation
Chicago, Illinois

Post-War Radio Sales Seen In Two Phases Wholesale-Retail Distribution Must Match Modern Production in Efficiency, Low Cost

Future radio selling prospects must be considered in the light of several rather important angles. These may be defined somewhat as follows:

(A) Post-war civilian radio for the first twelve to twenty-four months after peace is declared will be in performance much the same, if not identical, to radios made just prior to the beginning of the war. No doubt changes in cabinets and dials will occur but basically the radio will be much the same with the addition of FM as the outstanding technical development.

(B) A very real problem will exist as to the proper and most acceptable price at which large volume on radio will occur. In this connection it must be considered that the public will be expecting great things of the radio of the future—they will need a new set at once but will be reluctant to spend a great deal of money on it since they will expect to buy the great miraculous new radio set in about two years. This is certain to influence their thinking in regard to the amount of money they are willing to spend for radio immediately after the war when it is necessary for them to purchase something to replace their worn out set. Of course, there are many more details that will influence the immediate post-war market but these two are certain to have a profound effect.

Unquestionably manufacturers will encourage and in many instances support a greater degree of retail selling effort on their radio products. As this retail selling effort is developed on clearly defined lines, wholesale salesmen will find themselves in a position of sales instructors as well

Here's a partial group of publications in which the story of Greenlee Tools is carried. Combined, they represent a total issue circulation of approximately 215,000.

A MILLION MESSAGES!

Aid Today for Buyers and Users of GREENLEE TOOLS!

★ In trade and business papers that cover the nation, over a million copies per year carry the story of Greenlee Tools. In war, as in peace, they carry messages that thousands of key men read and use as a source of vital information. Today, this essential means of communication continues because it aids buyers and users of tools and equipment — helps them get jobs done with greater speed and efficiency — paves the way for greater combined action on the home front between buyer, wholesaler, and manufacturer. And for tomorrow, a solid foundation is maintained from which to build a brighter selling future.

ATTENTION MR. WHOLESALER — HERE'S HOW YOU CAN HELP!

All Greenlee Jobbers, Salesmen, and employees are invited to contribute data and information on new or unusual uses for Greenlee Tools. With America at war, there is a great and vital need for additional data that you can best supply. Information is needed on new uses for Greenlee Tools in the Industrial, Oil and Pipeline Fields — how they are used today in shipyards, ordnance plants, and on the vast multitude of construction jobs throughout the nation. *Your individual experience and contact in the field can provide a vital and substantial contribution to the war effort.* Send in your news and views today. All usable data will be publicized as a direct contribution from you and your organization. Get your company in the headlines — turn reporter today — send in your data along with a brief description or rough sketch. Address your letters to GREENLEE TOOL CO., Dept. 50, Rockford, Illinois.

A STAR HAS BEEN ADDED

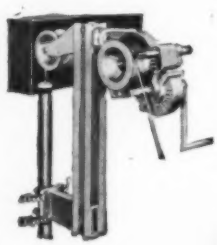
★ *For meritorious services on the production front, Greenlee Employees have won, in less than one year, their second Army-Navy Production Award. Symbolizing the continued high standards of production, a star has now been added to the Greenlee "E" Flag.*

GREENLEE TOOLS
SAVE HOURS ON WAR JOBS

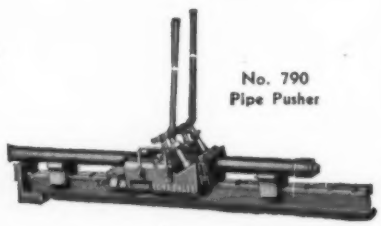
Here are a few of the popular Greenlee Tools that save time and labor costs by making work easier and faster for the man on the job.

New Hand Benders for (E.M.T.) Thin-Wall Conduit.
Steel, Copper, Brass, Aluminum Tubing.
Rigid Conduit and Pipe.

No. 770
Rigid Conduit and Pipe Bender

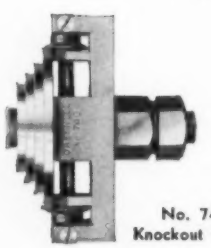


No. 765
Cable Puller



No. 790
Pipe Pusher

No. 750
Joist Borer



No. 740
Knockout Cutter

No. 735
Knockout Punch

No. 900
Bit Extension

No. 16 Unispur
Electricians' Auger Bit.

Greenlee TOOL CO.
ROCKFORD, ILLINOIS, U. S. A.

as being occupied with previous duties of selling to the retailers.

Great opportunity exists for the complete development of this trend and unquestionably, the individuals and companies who best develop the facility for developing retail sales in the modern method, will show immediate and substantial resulting profits.

Manufacturers have developed precision manufacturing since 1941 to a greater degree than ever before. It is most likely and certainly to be hoped that a more precise type of merchandising will be apparent, with a resulting contribution towards the development and control of the proper distribution policy.

Unquestionably, there will be far more intelligent product planning on the part of the manufacturer, both as to the type of product and the volume produced;—a trend will certainly be established toward improved manufacturer, distributor and retail relationships and policies; this trend will extend toward the reduction, if not the elimination, of price cutting.

Introducing

Mr. Victor Mucher

General Manager
Clarostat Manufacturing Company Inc.
Brooklyn, New York

Radio Parts Trade Changed By War.
Big Future In Industrial Electronics
For Alert Wholesalers Who Prepare NOW

The radio parts trade will be on a very much expanded and extended basis with the return of peace. Speaking definitely for radio parts, since our own business is the production of resistors, controls and resistance devices, I foresee tremendous trade opportunities for those capable of adapting themselves to enlarged opportunities.

Specifically, the radio parts jobbing business prior to this war was practically entirely in the radio field. We sold parts for initial equipment to engineers, laboratories, schools, experimenters and radio amateurs. Also, and by far the bulk of the trade, we sold replacement parts to servicemen and maintenance workers. And of course our so-called manufacturers' business was mainly to radio set manufacturers.

Something extra has been added, however, because of the war. Jobbers and their manufacturers have of late been supplying so-called radio parts for electrical, electronic, instrument-making and industrial functions. The bulk of today's parts trade is of a military or industrial nature. And it is many times what it was before Pearl Harbor.

Therefore, with the return of peace, I believe we shall be in the electronics—a broader, more inclusive, and certainly greater—field, rather than just in radio. Manufacturers and their jobbers will be serving many industrial accounts. Prices will be higher for better parts. Accounts will be sweeter. Business will be better. And all this will be available to jobbers who are quick to sense expanded and extended trade opportunities—and act accordingly.

Introducing

Mr. S. A. Loeb

President
Webster Electric Company
Racine, Wisconsin

Large Sales Possibilities In Sound And Intercommunication, Music - in - Industry But Needs Intelligent, Aggressive Selling

While the present period has seen the development and improvement of many devices in the communication and electronic field, it appears questionable whether any prediction can be made at this time as to when improved products can be made available for commercial use.

Doubtless, there are innumerable things, the development of which has been rapid, during the past five years, some of which may be commercially practical and others, while of value, would not adapt themselves for ordinary commercial use.

Such items as intercommunication, sound equipment, and systems designed for music and radio in industry have been generally accepted as standard items for every plant, whether it employs fifteen or fifteen thousand. Aside from the relaxation it gives to employees when played either during working hours, rest periods, or on their luncheon period, their practical use for the maintaining of production schedules has been proven.

Intercommunication systems and sound equipment not only provide profit on the original equipment for the electrical wholesaler, contractor and dealer but also gives the contractors a source of income on maintenance of systems already in use.

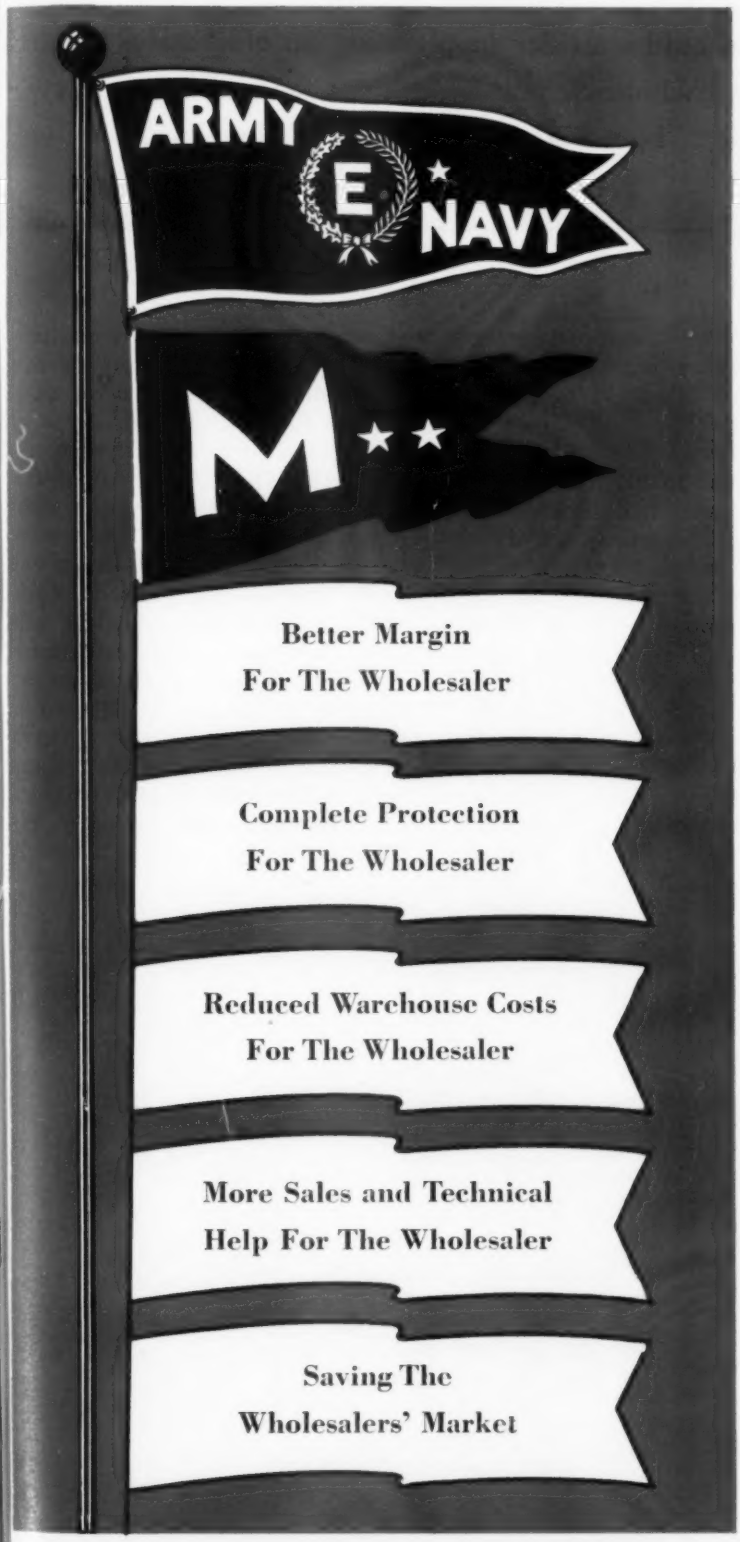
The electrical wholesaler who completes his list of products carried in stock by the addition of such items is assured of a profitable future. In the post-war period all types of electrical equipment must be sold by intelligent, aggressive presentation.

Dependable Protection

MONARCH FUSE COMPANY, Ltd.

116 E. FIRST STREET JAMESTOWN, N. Y.

EDWARDS and COMPANY WANTS POST-WAR PENNANTS TOO!



WE DISAGREE with the theory that post-war planning must wait until the war is won. With both war production honors flying at our masthead, we think we are in a position to plan for the future of our distributors and ourselves as long as we continue to fulfill our war obligations. Post-war research here is not all done with test tubes. Now, more than ever, we believe it necessary to plan to help solve the future problems of our Distributors. These are just a few of the projects we are studying:

Government buying policies have forced slim margins. We believe this uneconomic and untenable with good distribution. We plan to use every possible influence to bring the wholesaler's profit back to normal . . . at least on Edwards material.

Even the war has not made us relinquish this Edwards policy. But the wholesaler cannot subsist on the Edwards line alone. We plan to use the full weight of our influence to convince all manufacturers of the wiseness of this policy.

They were too high before the war. Studies point out many ways to reduce them. Better balanced lines, fewer sizes, better located factory stocks, and intense education of the industrial and contractor buyers.

Prefabricated homes may be inevitable . . . but a big slice of the population will want to build their own with local architects and contractors. That's the wholesaler's market and we will do everything possible to promote it.

It is history that wholesalers located near the plant do the best distribution job. Branch factory offices must be built up to give more sales and technical assistance. Edwards offices will be better staffed than ever.

EDWARDS and COMPANY, NORWALK, CONN. *IN CANADA,* **EDWARDS and COMPANY LTD.**

Speaking of Post War Selling

How To Distribute And S

What the wholesaler should consider in planning an electronics department. This experienced wholesaler discusses need for trained men, type of competition to expect, how big an inventory, display, turnover, etc.

DUE to wide-spread advertising, and new developments that have considerable appeal to the imagination, there is developing an increasing interest in the subject of electronics.

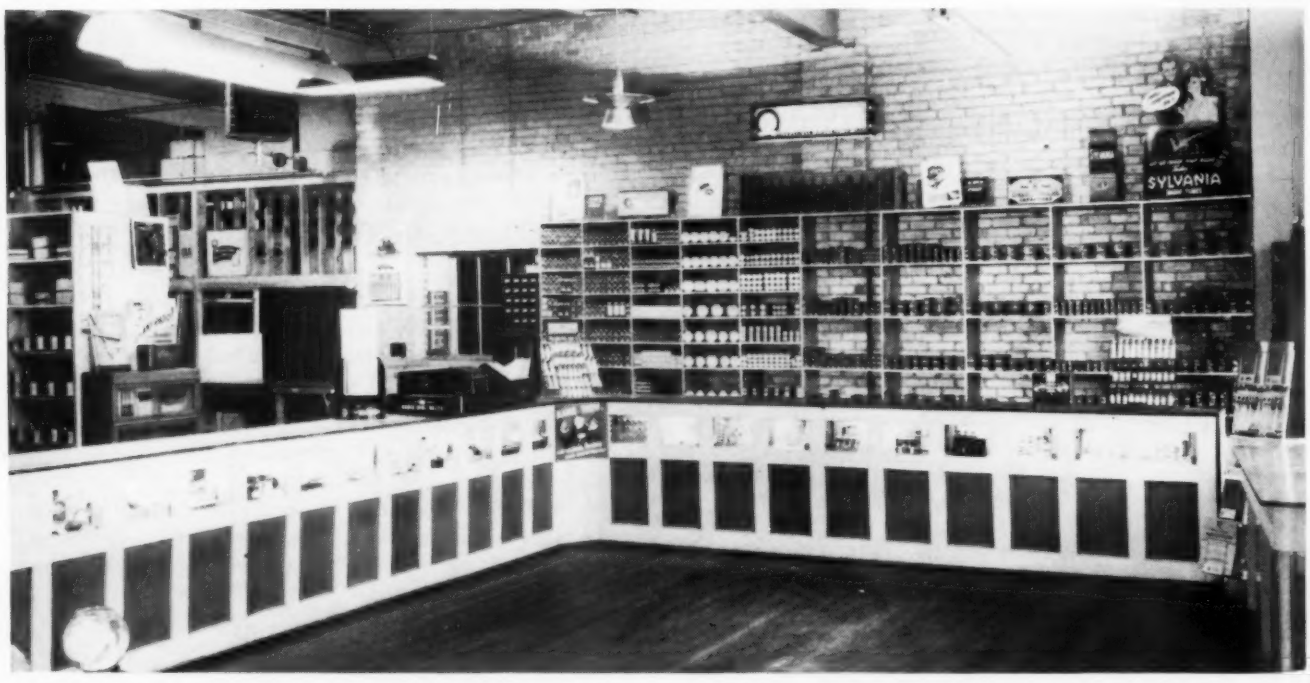
This interest has manifested itself in many ways, particularly in the field of electrical distribution. Most of the full line radio parts distributors of today are specializing in that field, and there are not many who have had a complete radio parts business along with a complete electrical supply and appliance business. However, it seems likely that after the war there will be more full line electrical distributors interested in electronic distribution, and this article may answer some questions regarding the operation of such a department.

The electrical distributor who is thinking about an electronics department is probably more interested in opinions regarding the future of such a business, rather than how it has operated in the past. I, therefore, wrote to a number of prominent executives in the electronics manufacturing industry for their views regarding the distribution of electronic devices, and the response was most generous.

I want to express my appreciation to those gentlemen for their cooperation. The readers of this article will be interested in knowing that the thinking of the men whom I contacted is very much alike.

Electronic device distribution today is being handled by several different classes of wholesalers, some having a complete line and others handling certain specialty lines.

By a full line distributor we mean a firm actively promoting the sale of receiver and transmitting tubes, standard replacement parts, speakers, instruments, test equipment, chassis and cabinet parts, amateur radio equipment, batteries, antenna outfits and parts, sound systems, inter-communicating systems, re-



The electronics department in the author's showroom has this prominent position at the right of the city counter. Bins behind the counter at the left are used for stocking electronic parts. Lighted display cases draw special attention.

Sell Electronic Devices

By R. M. Johannesen*

cording equipment, recording discs, play-back and recording needles, radio literature, and other miscellaneous items.

The specialty line distributor usually handles tubes, parts for the radio set that he sells, batteries, antenna outfits, and some test equipment. In some cases this specialty or part line distributor also handles some of the other items listed above.

Full-line radio parts wholesalers, who are scattered throughout the nation, are an important factor in electronics distribution today. Some are comparatively small and others are handling a large volume of business, but most of them are operating in about the same trading area as the average electrical distributor. They have attained a strong position, and will probably continue to be very active competition in the future, because they are nearly always operated by specialists who know the business. These are usually experienced radio servicemen or technicians, and, as a result, they talk the same language as the radio servicemen, the radio engineer, and the "ham."

The weaknesses of some of these firms, particularly smaller ones, have been inadequate financing, and lack of experience in such things as —business methods, extension of credit, sales direction and promotion. The average radio wholesaler does not have the same good entree in industry that the electrical wholesaler enjoys, and this fact may be a handicap after the war, because of industrial developments in the electronic field.

The mail-order radio parts distributor, usually operating in big cities, has been an increasingly large factor and will probably emerge after the war as a strong competitor. These firms usually carry very complete stocks of standard replacement parts and have ample financial resources, but any local electronics distributor can compete with them if he equips himself to do a good job, particularly in the handling of sales requiring specialized knowledge and personal attention.

A strong group of specialty distributors exists who usually handle tubes and parts for their own brand of radio sets as well as some other items previously mentioned. While they are not generally considered full line electronic distributors, they have served an important purpose and should continue to play a leading part in the industry. Most of these firms are well financed, well managed, and many of them represent radio factories who will probably have industrial and commercial electronic devices for sale after the war. They can expect a good increase in business promoting the sale of these new products, and it is doubtful if they will be interested in entering the parts business to a greater extent than necessary.

There are some territories where part time wholesalers operate who are actually combination dealer-distributors. They usually handle parts for the radio sets they sell, and frequently have their own service shops. With more complete coverage in the distribution of electronic devices, there seems to be little justification for the combination dealer-distributor. He is frequently looked upon with disfavor by the very people whom he was set up to serve, because his service work comes in direct competition with them.

Some electrical wholesalers have been operating a department like the specialty radio parts distributors mentioned previously in this article. However, there have been comparatively few full line electrical wholesalers who have had a complete electronics department.

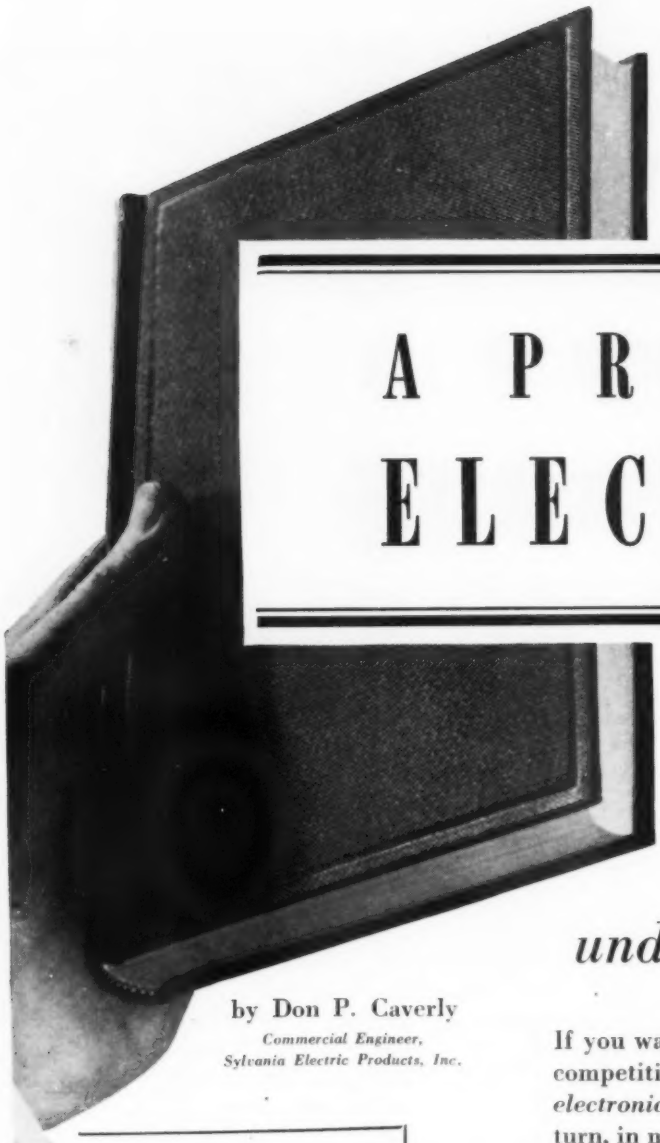
We have had such a department for about eight years, although we did not give it the attention it deserved for a large portion of that time. We have learned a lot about operating this department by the "trial and error" method.

We have found that we do not need a great deal of warehouse space to carry a complete electronics stock, as many of the items are very small. However it is advisable to carry as much of this merchandise as possible on shelves behind the city counter, where customers can see the merchandise and be reminded of items that might be overlooked.

We devote about half of our city counter to our electronic parts department because we find that this department accounts for much of our store traffic, as well as a considerable portion of our cash sale business.

If we were to make any changes

* *President, Johannesen Electric Co., Inc. Greensboro, North Carolina*



At Last!

A PRIMER OF ELECTRONICS

The first book that makes the complexities of this highly technical subject *understandable to the layman*

by Don P. Caverly

Commercial Engineer, Sylvania Electric Products, Inc.

If you want to be on top of your job when tomorrow's post-war competition is upon us—then you want to know more about *electronics.* Because you'll run into electronic devices at every turn, in most every plant you call on. It will be *big* business, and the wholesaler's salesman who has an understanding of it will have the inside track.

There's been plenty published on electronics, but most of it is so tangled up with engineering formulae and high powered technical phrases that the average mortal retreats in bewilderment. That's why A Primer of Electronics was written in a language that anyone can understand. It will give you valuable and essential background quickly and painlessly. More than 200 illustrations make it easy to grasp the basic principles without having to wade through endless paragraphs of explanations.

Yet, for all its simplicity A Primer of Electronics is authoritative and complete. Every wholesaler and his salesmen should have a copy, for study now and for reference later. Order copies *now,* please . . . with the paper situation the way it is we cannot tell how many copies will be available and orders will be honored as they are received.

ORDER NOW
for Distribution

DECEMBER 1943

PRICES

Single copies.....$2.00

10 or more copies, shipped to one address 10% Discount

100 or more copies, shipped to one address 20% Discount

Shipment will be made in the same rotation as orders are received.

WHOLESALER'S SALESMAN

A McGraw-Hill Publication

330 West 42nd Street ***New York 18, N. Y.***

Five years ago, on moving into a new building, the author established his display of electronic goods at the far right, adjacent to the city counter.

in our warehouse we would attempt to have even more of our electronic shelf space visible from our city counter. The electronics wholesaler really requires a department very much like a retail store in order to adequately display this type of merchandise. He should also be advantageously located because the radio serviceman will not go out of his way to get to your warehouse if he can help it.

We have found it absolutely necessary to have at least one inside salesman handling electronic counter sales who is a specialist in this field. The radio technician is not interested in talking to a counterman who cannot speak his language, and the inside salesman, who is not a radio technician of some sort, finds it almost impossible to properly satisfy the requirements of his customers.

This matter of trained personnel is very important, and we do not believe an electrical wholesaler can properly handle a complete electronics business without a specialist behind his counter.

At the end of the war we expect to have at least one outside salesman devoting his full time to electronic device sales. If industrial electronics business is developed through distributor channels, we will probably require a trained electronic engineer. Many well trained young men will be available after the war who have received their knowledge in the Armed Forces.

The electrical wholesaler with a good electronics department should be well equipped to handle industrial electronic sales and service after the war.

Radio parts wholesalers have operated with inventories ranging from almost nothing to several hundred thousand dollars. We believe an electrical wholesaler starting such a department now would require a minimum investment of five thousand dollars to secure a representative line of standard replacement parts, speakers, etc.

An adequate stock of tubes and a reasonable investment in test equipment and instruments would quickly bring this figure to ten thousand dollars. Sound systems, "ham" equipment, and industrial electronic devices will, of course, keep adding to the figures mentioned.

The wholesaler of electronic parts and devices has always enjoyed a higher margin of profit than the average electrical wholesaler, but this higher margin is necessary.

In the first place, the average unit of sale for the electronics wholesaler is much smaller than the average for the electrical wholesaler. His turnover is usually not nearly so good, and his operating costs are higher because of the specialty people he must maintain in this department.

The electrical distributor who tries to run an electronics department on the same margin as his other business will quickly find himself losing money. As more electrical wholesalers get into this business, it should have a tendency toward stabilization, and as more industrial electronic devices are put on the market, the unit of sale should increase. These factors will probably have a tendency to gradually increase volume and decrease profit margins, which will be a good thing for the entire industry in the long run.

Many electronic manufacturers believe that the only successful way for an electrical distributor to open an electronics department is to either buy out some existing radio parts wholesaler, including an able, experienced, man to operate the department; or to first locate a man experienced in radio parts distribution who would be able to help you start such a department.

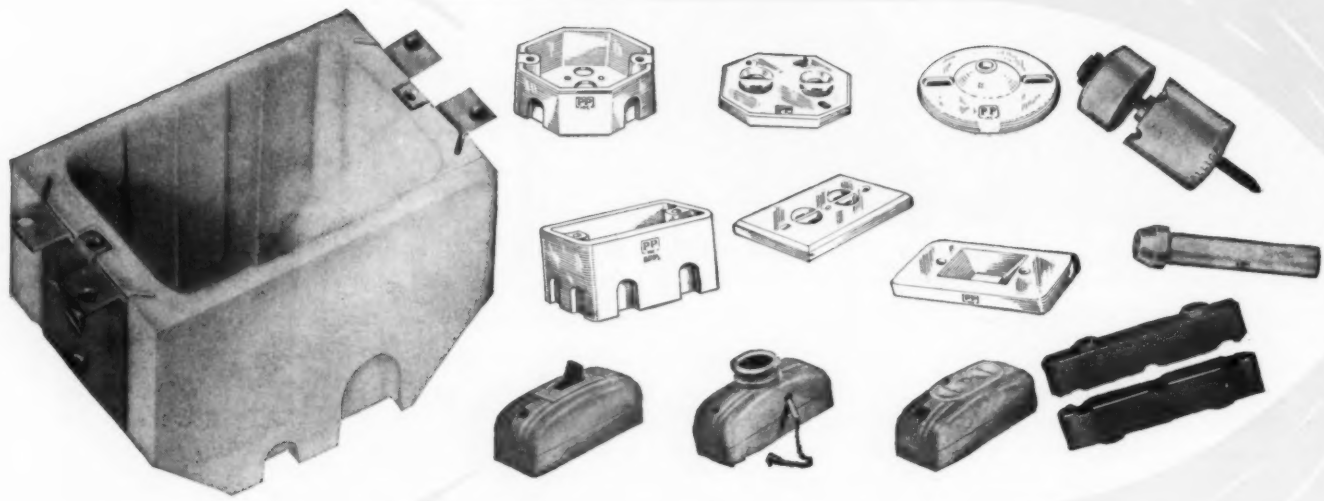
The electrical wholesaler who tries to build up an electronics department without experienced help will probably find the business very unsatisfactory, and by the time the "trial and error" method has run its course, some small radio parts wholesaler whom he has never heard of will quite likely have most of the business that he was planning on getting.

If you plan an electronics department we believe you will find it necessary to carry a complete line of standard replacement parts and devices, if this department is to be successful. The only exception will be the distributor, who does a large volume of business on some particular make of radio set, and who operates a parts department in connection with the sale of parts and accessories for these sets.

The distributor who decides to start out in a small way with just a line of radio tubes, some test equipment, batteries, and perhaps antenna outfits, will soon find that he has entered the field with only the merchandise that is the most competitive and we do not believe his electronics business will be very satisfactory.

The general opinion in the electronic manufacturing industry is that the entry of the electrical distributor into this industry will be a stabilizing factor in the business if it is done in the right way, with complete stocks and trained personnel. If you do not plan to go into this business in a complete manner it will probably be best for you to forget the whole thing because it is likely that your experience would be both sad and expensive.

Now IS THE TIME TO BACK OUR FIGHTING MEN!



Porcelain

Wiring Enable U. S. to Conserve and Shoot Steel and Other Critically Needed Materials at the Enemy

May it never be said that our men have ever lost a battle through our failure to conserve materials critically needed for armaments. Your son, and your neighbor's son, as well as others close to you may be in the Service now. Many, many more may soon be called.

You as an Electrical Jobber can play an extremely vital part in this War by advising your customers of the availability of products made of *non-critical* materials, and by keeping them abreast of the latest government Directives covering electrical construction. These now require the use of non-metallic type, or Porcelain, Outlet Boxes as shown here, as well as the use of simplified wiring calling for the use of knobs, tubes, cleats and other non-critical materials.

This Nation has, as in World War I, again called on Porcelain Protected Knob and Tube Wiring to carry a tremendously increased electrical load which is outstanding evidence of the great need for this simplest and most efficient of all wiring methods.

Now is the time for you to back our Fighting Men. Tomorrow may be too late. Replace your stocks of critical products with this line of non-critical materials for Porcelain Protected Wiring.

FREE

Write for Free Copies this Manual and Book on Porcelain Protected Wiring Systems.

PORCELAIN PRODUCTS, INC.

PART III

ELECTROMAGNETIC RADIATION

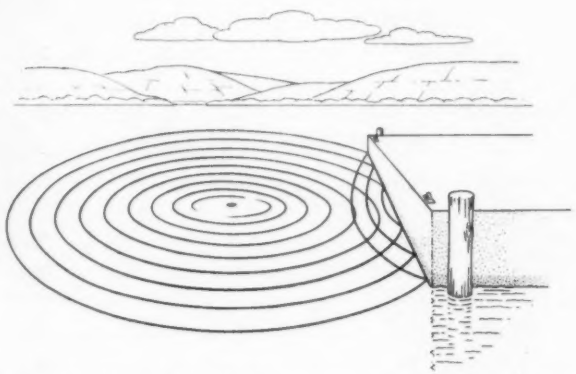
Chapter 6

Note: The author recognizes that many of the explanations and statements set forth here are controversial and subject to modification when further researches eliminate the questionable points.

Simple Waves

In order to obtain a clear concept of the characteristics of electromagnetic waves, it may be well to consider for a moment the simplest and most familiar of all waves—those produced on the surface of water.

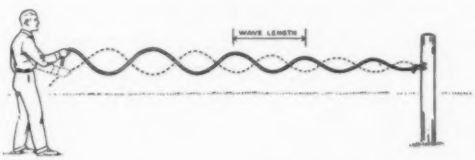
Everyone knows how a stone tossed out upon a calm pond sets up a disturbance on the surface of the water which radiates in ever-widening circles away from the point where the stone fell. This disturbance we call waves. Further study of such waves reveals that they travel at a fairly constant rate of speed and that they are reflected away from a wall or other rigid surface at the edge of the pond and will start back out toward the center again.



Waves on the surface of calm water radiate away from the source of disturbance and are reflected from surfaces they strike.

It should be remembered that the water itself does not move toward the shore with the waves, but that it merely rises and falls as the disturbance passes through it. The movement of the water might be indicated by a floating object such as a stick. As the wave approaches, the stick moves upward to the crest and slightly forward, and then as the crest passes, it descends again and moves back to its approximate original position.

The distance between the crests of two successive waves is called the *wavelength,* and the vertical distance between the crest and the level surface of the water (or one-half the vertical distance between the crest and the trough) is called the *amplitude.* These two terms are applied in a similar manner to electromagnetic waves.



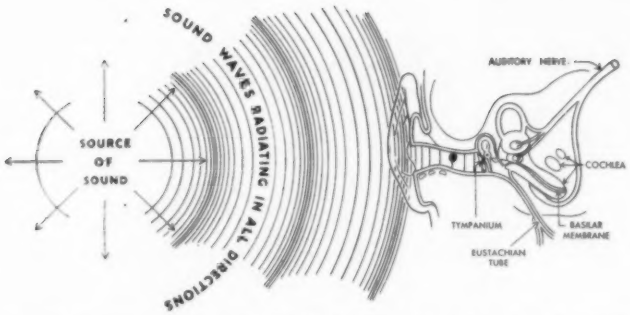
As illustrated in the above drawing, waves travel along a slack rope and are reflected back from the fastened end.

Similar waves travel through solids as well as liquids. A slack wire or rope will transmit a disturbance from one end to the other and back and forth several times before it finally dies out. If a long beam of wood or metal is tapped at one end with a hammer, the disturbance can be felt as it travels from one end to the other. The rates of speed of waves vary with the material through which they pass.

Sound Waves

Sound waves are transmitted through air, liquids and solids in much the same manner. They are, however, somewhat different in character in that they are *compressional* in form. This form may be illustrated fairly well with a long coiled spring. If the spring is stretched out to moderate tension between two rigid points and three or four of the coils squeezed together at one end and then suddenly released, this compression will traverse

Like the waves in a coiled spring, sound waves are compressional, however they do not follow one direction as in the spring.



Sound waves radiate spherically from a disturbance and when striking the ear drum, cause it to vibrate, producing a sound sensation.

the length of the spring, be reflected back from the opposite end and so on for a few times.

While sound waves are compressional, they do not follow one direction like those of the spring, or move in a plane such as the waves on the surface of water, but rather radiate in all directions like a rapidly expanding balloon. Sound waves are created by some disturbance just the same as the stone on the quiet pond creates the water waves. If a rifle is fired in the woods a half mile away, the disturbance caused travels outward in spherical waves so that about two seconds later when they reach our ears we "hear" the waves and interpret the disturbance as a sound.

It has been mentioned previously that sound waves travel 1088 feet per second in air at 32°F. In water they travel more than four times as fast, and in steel, about fifteen times as fast, but they are not transmitted at all through a vacuum. They also are reflected from surfaces the same as water waves are reflected from the wall. This reflected sound we call an echo. The study of how sound waves behave in their reflection from flat and curved surfaces, and how they can be amplified and diminished, is called acoustics.

During the first World War the presence and location of a submerged submarine was determined by means of sound detectors called Hydrophones. These instruments were placed on shipboard and connected to delicate sound receivers on the underside of the ship's hull. A much more accurate and extensive method of detecting enemy undersea craft in World War II involves electron tubes and supersonic waves instead of audible sound waves. Surface craft and airplanes are located many miles away through fog, haze and in total darkness by means of electromagnetic waves produced and received with radio ranging and directioning equipment. Both types of radiation will be discussed more fully later on.

Electromagnetic Waves

About the only similarity between sound waves and electromagnetic waves is that they radiate spherically from the source of disturbance. Otherwise, they are in a different category. The disturbance which starts electromagnetic radiation has to do with the movement of charges, and while it is known that electromagnetic waves are moving electric and magnetic fields, it is not as yet clear just what such fields actually are.

A study of the diagram showing the range of electromagnetic radiation shows that while these waves all radiate from the source of disturbance at the terrific speed of about 186,000 miles per second (in air), there is a tremendous difference in their frequency and wavelength characteristics even though the speed is constant. At the extreme right end, for instance, we find waves which are ten million meters (over 6,000 miles) from "crest to crest," and which vibrate only ten times per second (10 cycles). At the opposite end the wavelengths are so short and the frequencies so high that it is difficult to conceive of them at all. The distance between the "crests" of these waves are in the order of one ten-thousandth of an Angstrom—an Angstrom being a unit of length approximately equal to one 250 millionth of an inch (one hundred million Angstroms equal one centimeter), and they vibrate at a frequency of over a quintillion thousand times per second (10,000,000,000,000,000,000,000 cycles — usually expressed as 10^{22} cycles or 10^{16} megacycles). Another unit of wavelength measurement is called the millimicron (mu) and is equal to ten Angstroms—a micron being one millionth of a meter.

Although, as has been stated, the true nature of electromagnetic waves and exactly how they are caused is not completely understood, we do know how to start them and how to detect them. In some regions of the scale it is much simpler than in others. Nature has endowed all mankind and animals with two senses which detect or respond to certain bands of wavelengths and frequencies which fall about midway between the two extremes. These senses are sight and touch. Electromagnetic radiation between 4000 and 7800 Angstrom units in wavelength we *see* as visible light in colors ranging from deep violet to deep red. Beyond the red for some distance we *feel* the waves as radiant heat, and beyond the violet the radiation is known as the ultra violet which acts upon our skin to cause sunburn.

Other than this, as far as is known, we recog-

nize no "sense" which interprets naturally the vast range of other wavelengths and frequencies. But science has developed several types of electron tubes which can generate, detect, and control the electromagnetic waves in many of those regions which nature has closed to us, and thus place them at our disposal by changing the radiant energy of the waves into a form that we can either see, feel or hear.

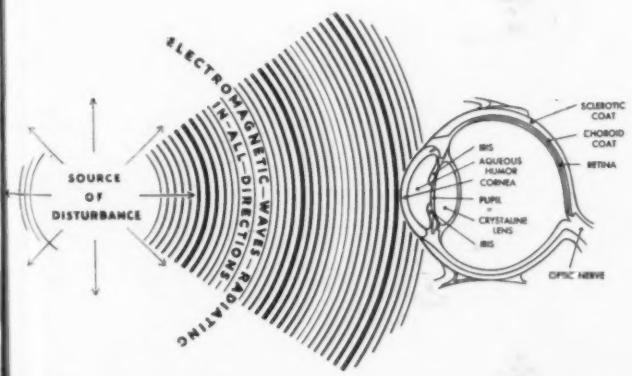
The diagram of the range of electromagnetic radiation shows the major divisions or regions which can best be discussed as individual units. Some of these are vital to our everyday life, while others are undergoing development and scientific investigation. There are also a few regions of frequencies and wavelengths about which very little is known except that they must exist to fill in the gaps between the more developed and understood regions. Therefore, rather than start at the low, or right hand end of the scale, and consider each bracket in order all the way up, it will be better, perhaps, to discuss them in accordance with their apparent importance to human life, comfort and happiness.

Chapter 7

Light

Solar radiation sustains practically all life on earth. As shown in an electromagnetic range diagram, the sun radiates its energy in a band which includes ultra violet, light, and infra-red, or heat. Some of the energy emanating from the sun never reaches the surface of the earth, however, because the envelope of air surrounding the earth filters it out, but the most important radiations get through and permit us to live.

Within the band of solar radiation there is a relatively narrow section of electromagnetic waves having wavelengths ranging between about 4000 and 7800 Angstrom Units, and frequencies of around five or six hundred billion kilocycles. Nature has provided us with two receiving sets for electromagnetic waves of these characteristics. The receiving sets consists primarily of a group of nerve fibers ending in rods and cones which are sensitive to the wavelengths and frequencies and in front of which are lenses to focus the radiation upon them. We call these receivers our *eyes*. When the electromagnetic waves pass through the lens and strike the nerve ends, the pulsation set up proceeds along the optic nerve to the brain and we experience the sensation of seeing light—that is, we see an object from which light is being reflected, or we see an object which is emitting light.



Electromagnetic waves radiate spherically from a source of the disturbance, pass through the lens of the eye which focuses them on the retina, producing the sensation of sight.

Just how the eye and brain work together in transmitting radiant energy of these wavelengths and frequencies into the sensation of sight, no one knows. It doubtless involves some electrochemical process in which a flow of electrons to and from the brain takes place. Beyond that, the working of the mind is known only to its Maker.

Radiation having wavelengths of from 4000 to 5000 Angstrom Units we see as violet to blue light, whereas from 6500 to 7800 the sensation is red. In between these limits we see all the other colors as in a rainbow. The wavelength of green colors is around 5300 Angstroms, and yellow between 5500 and 6000. Orange, obviously, falls between yellow and red, that is, between 6000 and 6500 Angstrom Units. Above the violet limit in one direction and below the red limit in the other we see nothing, but we know radiations exist because we can feel them naturally as well as produce, control, detect, and measure them with devices and instruments designed for the purpose.

Like water waves, electromagnetic waves are energy being radiated from a source of disturbance. The source of electromagnetic radiation, it has been stated, involves the movement of elec-

trons which was described at the beginning of this treatise as negative elements in the little knots of balanced energy called atoms. Light, therefore, being electromagnetic waves of definite wavelengths and frequencies, is radiant energy and as such must result basically from a disturbance of electrons in which this energy is released and radiated.

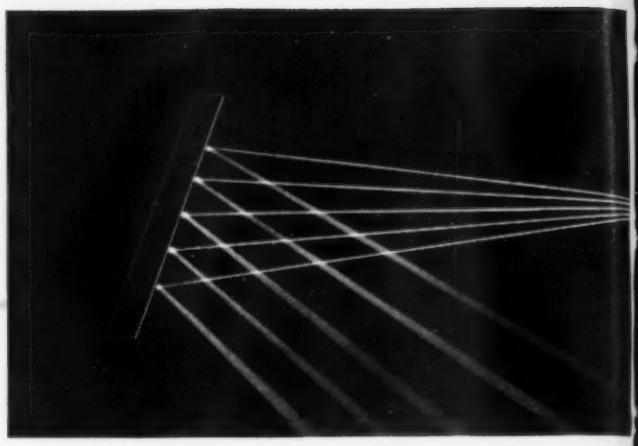
It will be recalled that in an electrically neutral atom, electrons revolve about the nucleus, each in its own orbit. But when something disturbs an electron and knocks it out of its orbit it releases energy while jumping back. If a length of wire or a solid block of metal is heated sufficiently thus agitating countless billions of atoms, their electrons become abnormally active and the released energy emanates in electromagnetic waves which we know as light. The color of the light depends upon the predominant wavelengths of the radiation. As more heat is applied, increased electron energy results in a consequent shift of wavelength or color from red hot to yellow and white hot. Since the atomic structure of each metallic element is different, different metals burn with characteristic colors of their own.

There are other ways of producing light without the application of heat. In chemistry, for instance, phosphorescent light can be produced by mixing solutions together which results in a disturbance of their molecules to the extent that electromagnetic waves will radiate as visible light without heat. This is found in nature when fireflys and many types of sea creatures do the mixing within themselves.

Another method involves the deliberate knocking about of atoms with free electrons to release the energy from the atoms (their electrons) and thus obtain electromagnetic radiation of wavelengths which the eye can collect and send to the brain to interpret as light. This method is the basic principle of today's most efficient gaseous discharge and fluorescent light sources. In nature we see the same phenomena many miles up in the rare atmosphere of the earth and call it aurora borealis or northern lights. For the present we are concerned only with a discussion of light as radiant energy. A more complete description of the characteristics of light from ionized gases will be presented later.

Control of Light

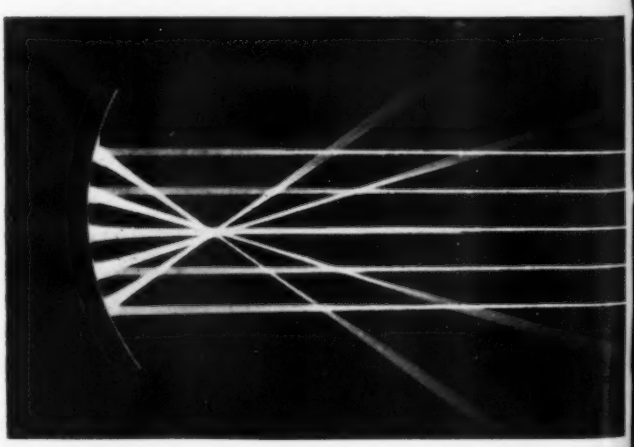
Any discussion of light, no matter how brief, would be incomplete without mention of its control by *reflection* and *refraction,* or an explanation



Angular reflection of diverging light beams from a specular plane surface.

of its measurement. Light waves may be compared to water waves again when considering their reflection, but it should be remembered that while water waves may be anywhere from an eighth of an inch or so to several feet in wavelength, light waves are in the order of one fifty or sixty thousandth of an inch in wavelength, and furthermore that light waves are vibrating at the rate of about 5 or 6 hundred trillion times a second whereas water waves may reach the shore anywhere from three or four per second to one every few seconds. Therefore, in making a mental comparison we must appreciate that our eyes do not distinguish minute waves of such extremely rapid vibration, but rather give us a concept of light as a steady or "solid" flow in all directions—spherically.

A beam or ray of light can be compared to a segment of a water wave or rather to a whole series of segments—one after the other. Both



Reflection of parallel light beams from a concave specular surface.

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Get the facts! Write to your Mitchell Distributor or to us for complete brochure giving full details and lighting data on the U.R.C. Research Luminaire—and for handy lighting "Calculator" which quickly estimates the number of fixtures needed for desired maintained footcandles in given area!

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TIPS *about* INDUSTRIAL LIGHTING

In the San Francisco Bay area one yard in particular is almost completely lighted by Verd-A-Ray. Both employees and management believe the yard the best lighted shipbuilding yard in operation on the west coast.

The interesting point, however, is this. Were you to stand on a hillside overlooking the bay area sky "halos" of reflected light come from all yards but so subdued is that from the Verd-A-Ray lighted yard that, by contrast, that yard seems relatively dark. Dim-out authorities have complimented the yard on this feature.

Just another point in favor of the glare reducing qualities of the better overall light distribution afforded by Verd-A-Ray.

*

In Detroit six young ladies are inspecting blades for superchargers. They have tried nearly every form of light only to discard it because glare reaching their eyes through the Magnifiers caused unnecessary eyestrain headaches and resulting fatigue.

Verd-A-Ray has been in constant use in all six units for four months and all operators say reduction of glare has corrected the other unfavorable conditions and has materially increased the quality and volume of their work.

*

Have you been through a large-scale fuselage making plant with its tier upon tier of highly reflective aluminum? If so, you can better appreciate this story. Visualize, if you please, a dozen or more welding machines with sheets of aluminum throwing back reflectance into the operators' eyes. One such battery of welders has now been equipped with Verd-A-Ray light for four months.

As a result of reduction in complaints for eyestrain headache and resulting fatigue the entire plant is now being Verd-A-Ray equipped and other plants under the same management have been asked to plan upon changeover as soon as possible.

*

Did you read the interesting story in March, 1943, issue of Safety Engineering Magazine which, by the way, was published in a competitor's publication. It outlined the experience of a shell plant after cleaning up and installing this new "glareless lamp." Such figures as one de partment in one month—69.13% overall reduction in hospital reported headaches; 54% reduction in dressings for minor injuries; 367 man hours saved.

*

Dont you think you'd like data on this new lamp? Writing for information means no obligation. Why not write—NOW.

HERE IS A SINCERE STATEMENT OF FACT

IF WE WERE MEETING YOU -- WE'D SAY --

"ALL INDUSTRIAL PLANTS HAVE PLACES FOR

VERD-A-RAY

NEW INCANDESCENT LAMP — KIND TO YOUR EYES

JUST READ THE *TIPS* AT THE LEFT

•

IN THE INDUSTRIAL PLANT——————

The Purchasing Agent Has Found that discounts are the same as those now prevailing on regular lamp contract.

The Maintenance Chief Has Found that this new lamp except for the outside filter coating conforms to standards.

The Safety Director Has Found that compensation writing insurance inspectors know of and speak highly of this new lamp because experience has proved it cuts fatigue and the injuries to which fatigue contributes.

The Management Has Found that through its use man hours are saved and production increased—and—

The Personnel Manager Has Found that through its use employee morale is definitely improved.

•

ELECTRICAL SUPPLY DISTRIBUTORS———

Can Sell THIS Lamp in plants where competitive lamp contracts now bar them, thus placing them in better position to secure contract renewal.

WHY NOT INVITE US TO TELL YOU THIS STORY

•

TO INDUSTRIALISTS and DISTRIBUTORS TECHNICAL DATA and SAMPLE SENT ON REQUEST — WRITE NOW

SAVE ELECTRIC CORP. - TOLEDO 5, OHIO

travel in a straight line from their source. Both are reflected away from a smooth surface at the same angle that they strike it. If the surface is rough or uneven, the reflected beam or succession of waves is diffused in both cases. If the surface is circular or parabolic in shape, the pattern of reflection is essentially the same for both.

In either instance, reflection means that the energy of the waves "bounces" back from the surface, after some is absorbed by the surface. The ratio of what energy bounces back, to what strikes the reflector, is called the efficiency of the reflector.

The water wave analogy cannot be used in discussing light refraction because water waves are not transmitted through a solid such as glass. A comparison with the transmission of sound waves might be used but it is not particularly satisfactory since sound waves cannot be seen except with laboratory apparatus.

Light waves travel at a different rate of speed through transparent solids and liquids than they do through air or a vacuum. As a matter of fact they travel slightly slower in air than in space beyond the earth's atmosphere (vacuum). In water the speed of light is about three-fourths that in air or approximately 140,000 miles per second.

In passing from one medium to another, light is bent or refracted. Nearly everyone has noticed the broken or bent appearance of a rigid stick thrust into shallow water at an angle. At the surface where the stick enters the water, it seems to abruptly change its direction to the bottom. A shallow pool always looks shallower from above than it actually is, and the depth appears to decrease as the distance away from the bottom area directly below, increases.

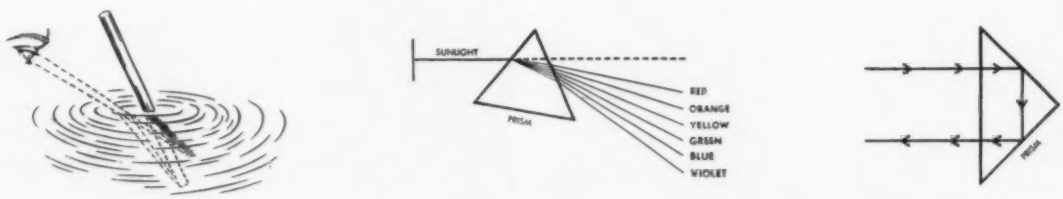
At sunrise and sunset the sun seems larger than at noonday because its radiation comes to us in rays tangent to the earth's surface and, therefore, must pass through more and denser air than when directly above. The air in this case refracts or bends the rays, causing the same visual effect as the water in the shallow pool when it makes the bottom look nearer.

The refraction of light through glass is the basic principle of all optical instruments. The varying thickness of lenses results in the high power magnification which brings within the range of our vision the sun, moon, planets and other heavenly bodies, as well as the realm of bacteriology and the physical structure of material.

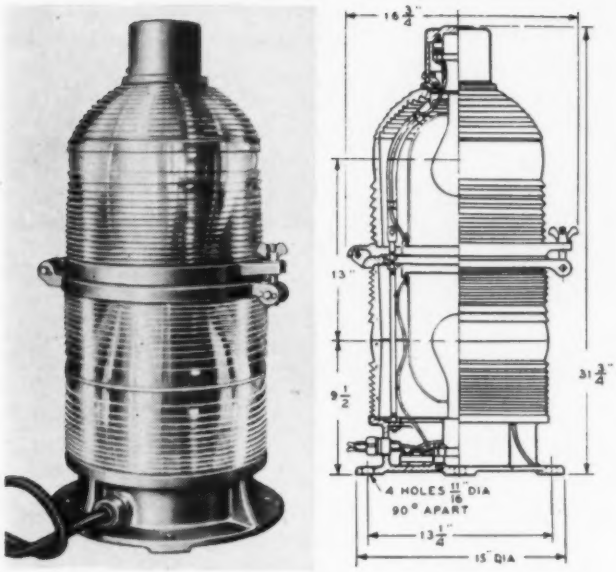
The study of light reflection and refraction is called optics, and to cover it completely would require many volumes. We must not leave it here, however, without some consideration of the prism.

As was previously pointed out, electromagnetic waves producing the visual sensation of deep red light have a wavelength nearly twice as long as those producing deep violet light. In passing through a liquid medium such as water, or a solid medium such as glass, the shorter wavelengths (higher frequencies) are retarded more than the longer ones (lower frequencies), so that they are bent or refracted to a greater degree. Thus when a beam of light of all wavelengths, which appears to us as white light, enters these media at an angle, passes through and out again, the colors separate out in the order of their respective wavelengths and we have a pattern of colors with red at one end and violet at the other. This occurs in nature when sunlight passes through rain drops or mist and we see a rainbow.

A prism is simply a short length of glass which is triangular in cross section. White light passing through two of its plane surfaces is *dispersed* or broken up into the component colors. Prisms may be cut to produce different results when light enters at different angles. If the cross section is an isosceles right triangle and a light beam is made to enter normal to (perpendicular to) one of the short sides, the beam will be refracted back out through the other short side without dispersion by being totally reflected from the hypotenuse or long side. Since in this case the light enters and leaves the glass perpendicularly, there is no bend-



Left—Because of refraction, a stick thrust into shallow water appears to the eye to be broken where it enters the water. Center—Example of dispersion of white light into its component wavelengths or colors by means of refraction through a prism. Right—Total refraction of light with an isosceles right triangle prism.



An airport code beacon utilizes two circular Fresnel lenses which produce a thin, horizontal "disc" of light 360 degrees around the unit.

(Photo courtesy Crouse-Hinds Company)

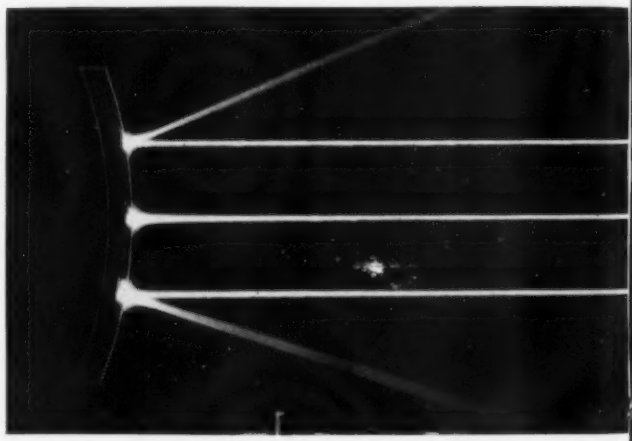
ing of rays and therefore no breaking up into colors. The same prism will refract a light beam back in the direction from which it came if the beam enters the hypotenuse perpendicularly so that no dispersion occurs.

Fresnel lenses which are used extensively in airport beacons, lighthouses and a great many other similar applications, utilize the refraction of multiple prisms (as well as spherical or cylindrical sections) to control the light in well defined patterns. Certain types of commercial and industrial lighting fixtures and lenses depend entirely upon the refraction of many small prisms for their diffusion and light distribution.

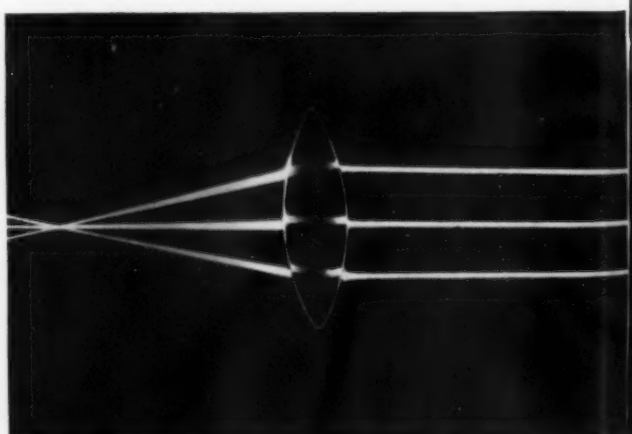
Prisms cut cross sectionally as equilateral triangles (all sides and angles equal) do not refract light beams without dispersion because the beam cannot both enter and leave the glass perpendicular to the surfaces through which it passes, due to the light bending angle characteristics of the glass. Prisms of this type are used in the Spectroscope, an instrument specifically designed to break up light into its component colors for analysis.

Spectra and their infinite value to science deserve much more space than can be devoted to them here. Briefly, spectrum analysis is a means whereby the presence of any of the elements can be detected, even in the most minute quantities. The spectra (color dispersment) of incandescent or burning solids or liquids, or of ionized gases and metallic vapor discharges, contain lines (light or dark, depending upon the method of analysis used) which always appear at the same place for the same element. They are different and characteristic for each element. These lines may occur singly or in groups and appear deep in the regions beyond the range of visible light as well as within it. For each element there are always the same characteristic lines identified with the element, appearing at precise wavelength positions in its spectrum.

This being the case it is obvious that light emanating from sources of unknown makeup can be analyzed in a spectroscope, and by the characteristic lines appearing at certain wavelengths it can be determined of just what elements the emitting source is composed. This has been done with the sun, planets and other celestial bodies many times

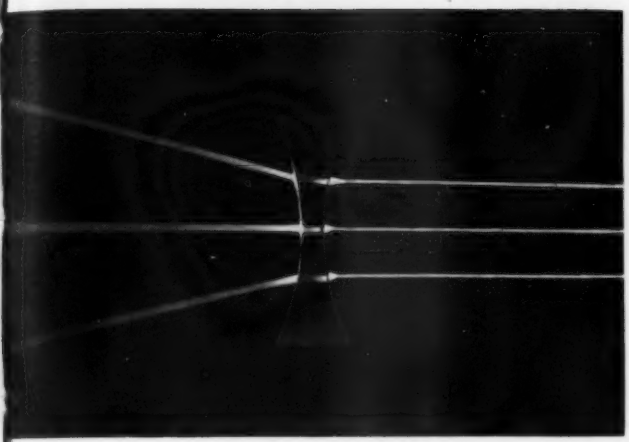


Reflection of parallel light beams from a convex specular surface.



Refraction of parallel light beams through a condensing or converging lens.

(Photographs by permission of the Museum Committee, Mass. Inst. of Tech.)



Refraction of parallel light beams through a concave or diverging lens.

as well as with countless compounds in the laboratory. New elements have been discovered through the appearance of unfamiliar lines at new wavelength positions.

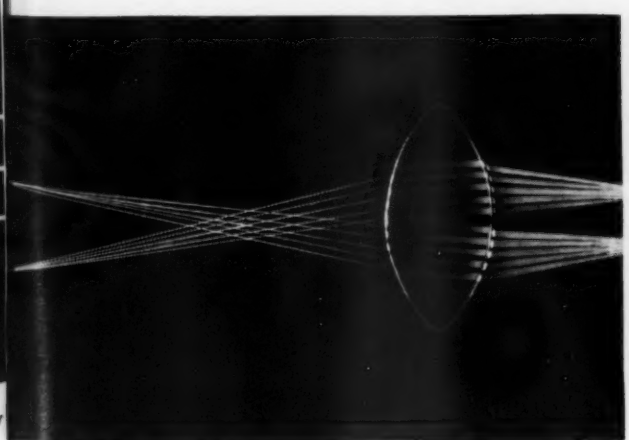
Since light is electromagnetic radiation resulting from a disturbance in the normal electron orbits around the nucleus of an atom, and since the number of electrons is different for each element, it follows that there is a relationship between the released electron energy causing light radiation and the lines appearing in the spectrum. This correlation of atomic structure in terms of the spectrum lines of a substance has been a fruitful field of science during the last two decades. From it has come most of our basic understanding which has developed into the science of modern physics.

It has been explained that light is made up of rapid pulsations of energy or electromagnetic waves radiating spherically from a source of electronic disturbance. If we can imagine these waves passing through a fine grating such as a comb, the teeth of which are no farther apart than the waves are to each other (approximately one fifty thousandth of an inch), it can be seen that after passing through, the waves will be sliced into thin "sheets," each of which will be only the thickness of the space between the teeth of the "comb." Thus, the waves can only continue to radiate up and down if the teeth are vertical, from side to side if they are horizontal, or in any other direction the teeth will permit. Light having undergone this fine "slicing" process is said to be *polarized.*

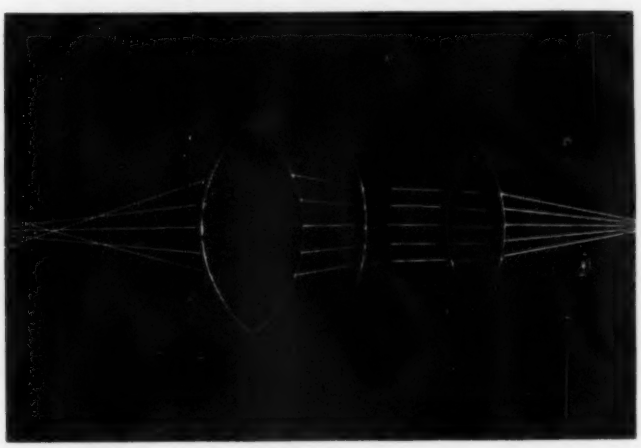
If a second comb is placed in front of the first, it is obvious that the radiating light will pass through it also *only* if the teeth point the same way. If they point at right angles and in a parallel plane to those of the first comb, the slices are sliced again or "diced," as it were, into dimensions smaller than their actual wavelengths so that the radiation is completely absorbed. This should not be confused with louvering of light which merely effects a cutoff by reflecting or absorbing the radiation.

Light will be polarized by reflection if it falls upon a surface at a certain angle and may result in what is commonly called *reflected glare* if viewed at the same angle from the opposite side. Other angles will only partially polarize the light, and different materials have different angles of polarization. If an observer sees this reflected polarized light through glasses made of material which serves the function of a second "comb" at right angles, it is obvious that a large amount of the annoying and harmful reflected glare can be eliminated.

Polarization of light has been known for many years and was accomplished in laboratories with certain types of crystals which have, naturally, the



Refraction of two sets of diverging light beams through a converging lens. The sources are at the right.



An optical system illustrating accurate control of light beams with three lenses.

T IN BINDING

necessary minute grating characteristics. Relatively recently, however, a method of manufacturing a material having polarizing properties was developed by Edwin H. Land in Massachusetts, and is commercially available today in sun glasses and other forms.

Polarized light also plays a vital part in many industries for examining various materials for stresses and strains. Under polarized light the strains appear as symmetrical color formations which change their shape to conform with the shifting of the load under which the material is placed.

The word "light" is frequently used in conjunction with the word "flux," so that the combination, light flux, more properly describes perhaps the "flow" of light in electromagnetic waves from its source. Physicists measure light flux, that is, the flow of radiant energy, in ergs per second, the same as the layman might refer to water flow in gallons per minute.

Since the flow of light is so rapid however (186,000 miles per second), the general concept of it is as a static quantity the same as gallons, with no reference to time involved. Illuminating engineers speak of the total light flux of a source or of the flux in a certain direction, but the common units of light measurement disregard the elements of time because there obviously can be no visual sensation of light wave movement.

Measurement of Light

The first basic unit of light measurement applies to the power of the source and is called *candlepower*. This unit was established in 1909, when an agreement was reached between the standardizing laboratories of the governments of the United States, Great Britain and France, that a standard light source power unit should be the luminous intensity of a candle flame—the candle itself to have certain dimensions as well as definite specifications as far as the tallow and wick are concerned. Since then these laboratories maintain the original standard candlepower with incandescent lamps of precise operating characteristics.

Some light sources are rated in accordance with their luminous power. We purchase automobile headlight lamps, for example, by their candlepower size, whereas ordinary incandescent lamps for use in home, store or industrial illumination are rated according to their electric power requirements—in watts.

Large searchlights have a unit called beam candlepower applied to them which, as the term indicates, is the luminous intensity of a beam of light in any specified direction within the confines of the beam.

The second fundamental unit of light measurement is the *lumen*. It is a unit of light flux "quantity," that is, the amount of light falling upon an area of surface. When a one foot square of any flexible material, such as paper, is placed one foot away from a one candlepower source, and curved so that all points of the square are one foot away or equidistant from the source, the square has one lumen of light upon it. It intercepts this amount radiating from the source. Obviously such a square would be part of the area of a sphere, one foot in radius. Since a sphere with a one foot radius will have 12.57 square feet of surface ($4\pi r^2$), a source of one candlepower must always emit 12.57 lumens. A two candlepower source will emit twice as many or 25.14; three candlepower, three times as many, and so on.

It should be remembered that the size of the sphere or the area upon which the light falls has nothing to do with the lumen rating of the source. Areas intercept some of the lumens (or a portion of one) emitted by the source. Certain types of street lighting lamps are size-designated in lumens rather than in watts, so that a true measure of their light output will be indicated. All light sources have a published lumen rating in order that their actual light output will be known to the purchaser. The efficiency of an electric light source is the ratio of its light output in lumens to its power input. This efficiency is expressed in *lumens per watt*. In other words, if a standard 100-watt incandescent lamp emits 1620 lumens, its efficiency will be 16.2 lumens per watt.

The third basic unit of light measurement called the *footcandle* is quite well known. The footcandle is no direct indication of the power of the source, or the amount of light it emits (except through calculation) but rather is a measure of the intensity of light at a point on any illuminated surface. It can be defined as the illumination at a point one foot distant from a one candlepower light source. Since a lumen is the amount of light on a one foot square one foot distant from a one candlepower source, it can be seen that every point on that square will be illuminated to an intensity of one footcandle.

A study of the diagram should clarify the relationship between these three units of light measurement, as well as illustrate the principle of the

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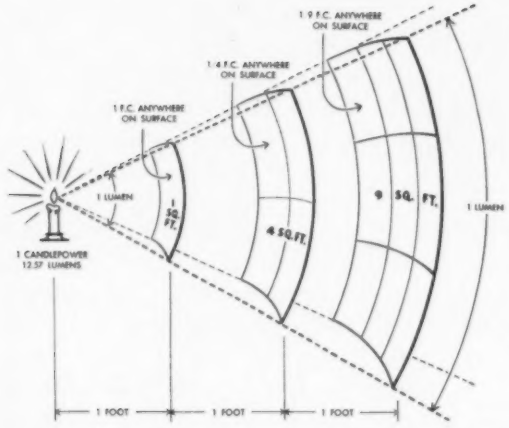

A diagram which illustrates the inverse square law of light and the units of light measurement.

inverse square law which states that the illumination on any surface perpendicular to the direction from which the light flux is traveling, varies inversely as the square of distance of the surface from the source.

Color Temperature

While *color temperature* would not be considered as one of the basic units of light measurement, it has become quite well known to the general public as a result of the widespread application of fluorescent light sources.

In scientific illumination work, use is made of a theoretical object or substance which, when heated sufficiently, will radiate energy in colored light the same as a hot stove lid will first become deep red, then orange, and so on until it reaches white heat and eventually its melting point. This theoretical object is called a *black body* and is assumed to have perfect characteristics for emitting all the colors of the visible spectrum from red to violet as it becomes hotter. A light source is said to have a certain color temperature when its radiation has the identical color characteristics as the theoretical black body at this given temperature.

Color temperature is indicated in degrees Kelvin, which is a temperature scale (sometimes called absolute temperature), having its zero at —273°C (or —523.4°F, a temperature at which no heat exists and all molecular motion ceases). Thus, when an incandescent lamp is said to have a color temperature of 2700°K, it means that the filament is the same color as the black body would be at 2700°K, or yellow-white hot.

Color temperature should be applied only to light which is generated by heat, but it has become more or less customary to apply it to the colors of fluorescent lamps for the sake of simplicity in distinguishing one color from another. Standard "white" fluorescent lamps, for instance, may be designated as 3500° White, but actually a black body at this temperature would be slightly different in color. The fluorescent white lamp, however, will be nearer to the color of the black body at 3500° than at any other temperature.

Noon sunlight will average between 5000° and 6500°K, but if the total light from the sun and the clear blue sky is considered together, the average will be somewhat higher.

The science of illumination involves many terms relating to brightness, brightness contrasts, relative visibility and a number of other factors having to do with optics and vision. It is a science which vitally affects the health and comfort of all mankind. For that reason considerable space has been devoted here to those electromagnetic waves in the spectral region we sense as visible light.

TO BE CONTINUED

In November, and in following issues of WHOLESALER'S SALESMAN. For table of contents and chapter summaries see the July 1943 issue.

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- **burns 10 hours on one charge**
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- **unlimited applications**

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NO NEED TO REMOVE BATTERY FROM CONTAINER

To re-charge from A. C. current, insert D. C. plug of charger into receptacle installed in the lamp head and the other plug of the charger into 110 volt A. C. socket. Can also be charged from D. C. lighting circuits without using a charger, if sufficient resistance is placed in series in the circuit. Charging switch can be furnished whereby lamp battery can be re-charged from auto, truck, tractor, or any type of generator. Storage battery is a 15 plate, 26 ampere-hour heavy-duty type with rubber and wood separators.

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Two Bulbs are installed in a Silver Plated Reflector. Main bulb is a pre-focused type designed to give maximum in beam candlepower. **A small auxiliary bulb** is provided for times when a great amount of light is not needed. Will burn 70 continuous hours.

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Earmark this unusual Portable Hand Lamp for future good business with profit. The BIG BEAM has many new and important features which make it always ready for instant service, for every type of job—regular or emergency. It gives a high intensity light from a battery that does not have to be removed from its container to be re-charged—it combines the very newest and proved developments and is specially engineered for industrial and commercial uses. To get some idea of the possibilities for selling BIG BEAMS, see the list to the left. Our endeavors have been confined to supplying our own government service with BIG BEAMS, but the time is now here when BIG BEAMS are available for the many and varied applications shown in the above-mentioned list. Send for descriptive literature—get acquainted with the fine points of BIG BEAM—get ready for immediate business and post-war business—on a big scale.

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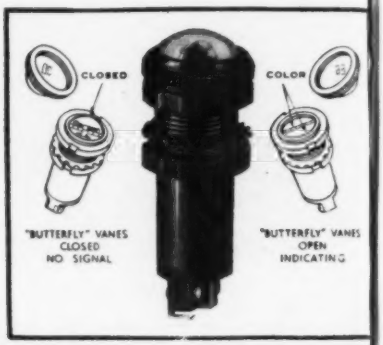
A DIVISION OF CONSOLIDATED ELECTRIC LAMP CO

LIGHTING UNIT

Non-metallic reflectors of this fluorescent unit are removable without turning off current or removing lamps. "V" shaped wiring channel separates the two 40-watt lamps and thereby eliminates light absorption from one lamp to another. This channel serves as a reflector. Outside of unit is finished in cloud grey synthetic enamel. Inside is finished in high reflective white. Fostoria Pressed Steel Corp., Fostoria, Ohio.

When writing mention WHOLESALER'S SALESMAN

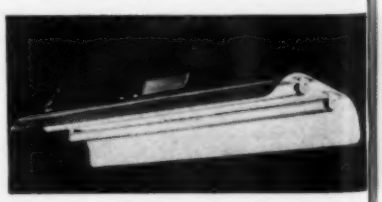
SIGNAL INDICATOR



Signal indicator, Signalette, operates by fluorescent reflection of "black light". Claimed to banish blur and glare of the light-transmitted signals. While the Signalette is primarily designed for aircraft, many other uses are claimed possible. Littelfuse, Inc., Chicago, Ill.

When writing mention WHOLESALER'S SALESMAN

FLUORESCENT UNIT

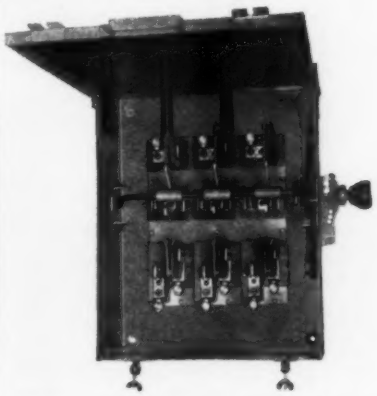


Feature of the Smithcraft fluorescent lighting unit is its simple means of releasing and replacing the reflector. Wing nuts carry captive hood bolts which slide in and out of a pair of coves which are a part of two cross bridges welded to the housing. A. L. Smith Iron Co., Chelsea, Mass.

When writing mention WHOLESALER'S SALESMAN

NEW PRODUCTS you can SELL

MARINE SWITCH——————



Marine type double-throw switch is splash proof and designed to withstand shock tests as specified by the Navy. Available in 2 or 3 pole, from 30 to 100 amperes, 250 volts a.c., d.c. 575 volts a.c., either fusible or not fusible. Square D Company, Detroit, Mich.

When writing mention WHOLESALER'S SALESMAN

FLUORESCENT UNIT—

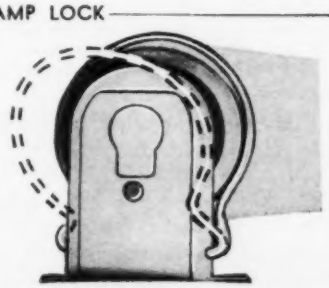
Fluorescent extension cord light is designed for work in confined areas and close inspection. It is claimed this unit furnishes fully adequate quantity of light of low surface brightness and with no glare. Sylvania Electric Products, Inc., Ipswich, Mass.

FLUORESCENT FIXTURE——————

War model fluorescent industrial fixture is designed in compliance with latest WPB steel limitation order. Reflectors are held in place by two wing-type latches. Ballasts are mounted below channel providing better air circulation. Lamp starters are located behind sockets and are replaceable without disturbing lamps. Units available for 2-40, 3-40, and 2-100 watt lamps. Adapted for surface or suspension mounting. Day Brite Lighting, Inc., St. Louis, Mo.

When writing mention WHOLESALER'S SALESMAN

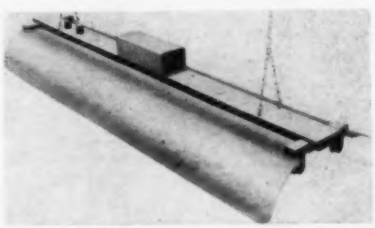
LAMP LOCK——————



Safety lamp lock, an integral part of each socket of fluorescent fixtures, minimizes the risk of lamps falling from sockets. It is designed to effect important savings in time and money in industrial plants. Simple in construction, it is arranged so as not to interfere with fixture relamping and cleaning. The Miller Co., Meriden, Conn.

When writing mention WHOLESALER'S SALESMAN

FLUORESCENT FIXTURE——————

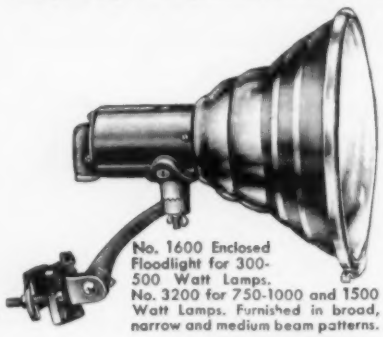


Industrial fluorescent lighting fixture has a device, "Flexi-Coupler", which permits spacing of fixture units as much as 6 in. apart, yet preserves all the features of a continuous-run installation. This makes possible the use of nine 100-watt fixtures in a 50-foot run instead of ten. Available in two 40-watt, three 40-watt and two 100-watt sizes. Martin-Gibson Co., Detroit, Mich.

When writing mention WHOLESALER'S SALESMAN

WHICH OF THESE FLOODLIGHTS MEET YOUR CUSTOMERS' NEEDS?

Protection against sabotage—and against accidents is best provided by Steber Floodlights. Many types are made for a great variety of essential uses—for plant areas, railroad yards, docks, stock piles, shipping and receiving areas, refineries and oil storage depots, power plants, substations,—stationary and portable types.



No. 1600 Enclosed Floodlight for 300-500 Watt Lamps. No. 3200 for 750-1000 and 1500 Watt Lamps. Furnished in broad, narrow and medium beam patterns.

The 1600 Series Enclosed Type is for 300-500 watt lamps. The No. 3200 Series is similar but for 750, 1000 and 1500 watt lamps. Reflectors are chromium plated, lenses are heat-resistant in clear or stippled glass. Broad, medium or narrow beam patterns are available.

Steber No. 3000 Open Type Floodlight for general purpose lighting of large areas has a glistening white interior finish of high reflectivity,—for 300-500 watt lamps. The No. 3050 is larger, for 750-1000 watt lamps. These units as well as the one above are available with adjustable light shielding visors.

Steber No. 3000 or 3100 Open Floodlight. Available with or without light shielding visors.

Handy Adjustable Outdoor No. 592 Floodlights fill many requirements. Designed for stationary mounting and for use with 200 watt lamps. Finished in durable Ultranamel and provided with enclosing lens and easy detachable ring.

No. 592 Enclosed Type

Steber Circulite Floodlights being mobile have scores of uses in airports, hangars, shipyards, factories, repair departments,—and are ideal for emergency night construction and maintenance work. Reflector is 12-in., chromium plated inside, on 6-ft. rigid pipe standard. Adjustable universally at 360° and in any position. Made for 300-500 watt lamps. Ask for Steber No. 1650.

Spike Type No. 472

No. 1650

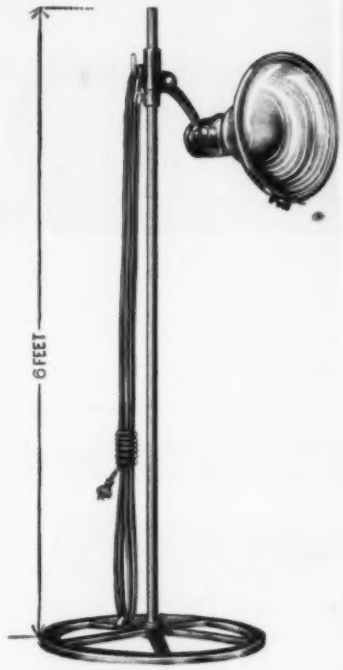
Ground spike type No. 472 is one of a group of Steber High Stand portable and adjustable Floodlights with a wide field of application. Telescoping pipe stand adjustable from 3½ to 6 feet. This size has 10½-in. reflector, enclosing lens, for 200 watt lamp. Finished in Ultranamel or porcelain enamel.

Advertisements carried to industry (total circulation over 200,000) help sell Steber Floodlights for you. If you do not have complete Floodlight Bulletins—ask for them. STEBER MANUFACTURING CO., 2451 No. Sacramento Ave., Chicago 47, Illinois.

STEBER

FLOODLIGHTS

FLOODLIGHT



Portable floodlight, useful for defense plants, airplane assembly and maintenance hangers, shipyards, etc., is adjustable in a vertical range from bottom to top of the six-foot pipe standard at any angle and horizontally at 360° radius. The 12-inch reflector is chromium plated for high reflecting efficiency. Base provides stable footing yet permits easy portability. Steber Mfg. Co., Chicago, Ill.

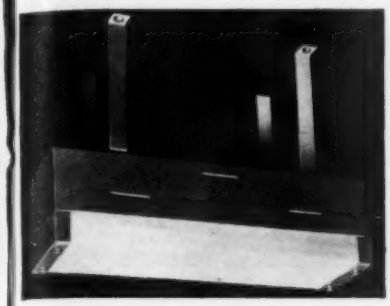
When writing mention WHOLESALER'S SALESMAN

CIRCUIT-TESTING DEVICE

Circuit-testing by-pass for street-light cutouts is equipped with an SL-type film cutout. This device enables the service man to determine whether the circuit is actually closed before installing a new by-pass. If an open circuit causes the cutout to trip out, the circuit is repaired and the testing by-pass is inserted before the by-pass is put into place. General Electric Co., Schenectady, N. Y.

When writing mention WHOLESALER'S SALESMAN

FLUORESCENT FIXTURE



Fluorescent lighting fixture for marine use, designed to resist shock, vibration and oscillation, is suitable for vessels such as Coast Guard Cutters, etc. This unit employs two 15-watt fluorescent lamps. The tulamp ballast, lampholders, starter sockets and special terminal block may be removed from housing as a complete unit, without dismounting the fixture from the ceiling or from the mounting brackets. Curtis Lighting, Inc., Chicago 38, Ill.

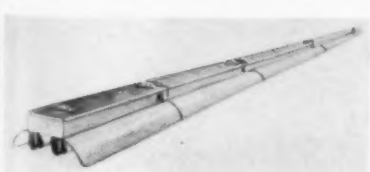
When writing mention WHOLESALER'S SALESMAN

CONNECTORS

Multifit connectors may be used for a wide range of conductor sizes. One tee takes any cable from 1/0 to 300 cm on either run or tap—full torque will be exerted on conductors of every size. Straight connectors and reducers with 2, 4 or more bolts; ties with 1 or 2 bolts on run and tap; terminals with any number of bolts, straight or angle flanges, variously drilled are available. Lock washers give protection against vibration. Penn Union Electric Corp., Erie, Pa.

When writing mention WHOLESALER'S SALESMAN

FLUORESCENT UNIT



Model No. 2060 all-purpose industrial unit, using two 20-watt fluorescent lamps, is useful for high intensity, localized lighting of production, assembly and inspection lines and for lighting over benches, machines, tables, etc. Unit has the latest type ballasts, sockets and FS-2 starters. Operates on 110-125 volts, 60 cycles, a.c. Mitchell Mfg. Co., Chicago, Ill.

When writing mention WHOLESALER'S SALESMAN

Every good tool in the hands of American workers is a threat to the Axis. Every tool carelessly used, broken or lost reduces our productive capacity. To help workers get the greatest use from their tools, we have prepared a booklet on the proper use and care of tools. A copy will be sent without charge to anyone requesting it.

TODAY Klein Pliers in the hands of soldiers, sailors and wartime workers are helping speed the day of Victory. When the war is won these same quality tools will aid linemen—electricians—good workmen everywhere to do their jobs better, faster, more surely.

In a post-war world, the name Klein will continue to stand for the highest quality in pliers and equipment as it has "since 1857."

ASK YOUR SUPPLIER

Foreign Distributors: **International Standard Electric Corporation, New York**

Mathias KLEIN & Sons

Established 1857 **Chicago, Ill., U.S.A.**

3200 BELMONT AVENUE, CHICAGO 18, ILLINOIS

Latrobe PRODUCTS

★ FLOOR BOXES ★ WIRING SPECIALTIES ★

HIGH QUALITY — EASILY INSTALLED

No. 110 Non-Adjustable Watertight Floor Box

Iron box body, 3⅓ in. round brass cover plate. Shown with No. 208 Receptacle and No. 207 Bell Nozzle. Overall height 3⅛ in.

No. 470 "Bull Dog" Pipe or Conduit Hanger

A grand clamp for hanging pipe or conduit to steel beams. Will hang pipe ½", ¾" and 1" to ⅜" beam. Will accommodate copper wire Nos. 8 to 4.

No. 100 Non-Adjustable Watertight Floor Box with No. 206 Nozzle

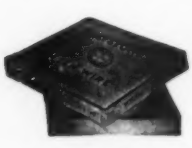
Used as telephone outlet or junction box. Iron box body, 3½ in. round brass cover plate. With or without stem nozzle.

Unsurpassed for War Emergency and Civilian Jobs

On all installations where time is important Latrobe Products lead the field. Just as they do in point of dependable service. Modern in design, quickly installed, trouble-free for life.

No. 3½ B & D Cleat

Shows cleat attached to No. 403 Insulator Support with No. 445 cleat attachment.



Keystone Fish Wire

High grade steel wire correctly tempered. Ten sizes. Packed 100, 150 and 200 foot coils. Other lengths available.

No. 403 Insulator Support

Shows 2½ in. conduit attached to No. 403 Insulator support with No. 466 Pipe Hanger.

Write for Catalog

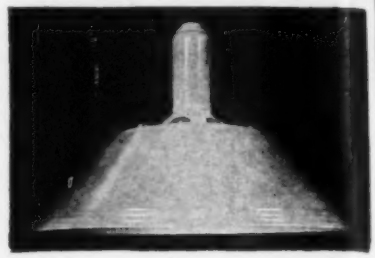
DURABLE — ECONOMICAL

FULLMAN MANUFACTURING CO. QUALITY AT LATROBE TO OB SUPREMACY LATROBE, PA.

FULLMAN MANUFACTURING CO.

LATROBE . . . PENNSYLVANIA

REFLECTORS



Commodore industrial units consist of a series of 15 in. and 19 in. reflectors for lamps from 200 to 500 watts. Available with adapter socket or screw terminal socket, holder and ½ in. fitting to mount on pipe, cord or box cover. Small upward component sufficiently illuminates ceiling to avoid excessive contrast. The F. W. Wakefield Brass Co., Vermilion, Ohio.

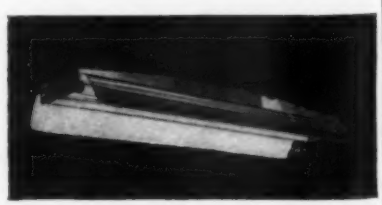
When writing mention WHOLESALER'S SALESMAN

LAMP BALLAST

Air-cooled type fluorescent lamp ballast, designed for exposed mounting on fluorescent lamp fixtures, is suitable for single, two, three and four lamp fixtures —ratings of 40 to 100 watts. Leads are brought out through outlets in the base plate. It is claimed that they do not require special installation devices. Acme Electric & Manufacturing Co., Cuba, N. Y.

When writing mention WHOLESALER'S SALESMAN

FLUORESCENT UNIT



War-time industrial lighting unit, for use with fluorescent lamps, is available in sizes for 2-40, 3-40 and 2-100 watt. Wiring and auxiliaries are fully enclosed. "Flexible trigger" supports are designed to allow quick, easy reflector removal. Starter switches are accessible without removing lamps. Edwin F. Guth Co., St. Louis, Mo.

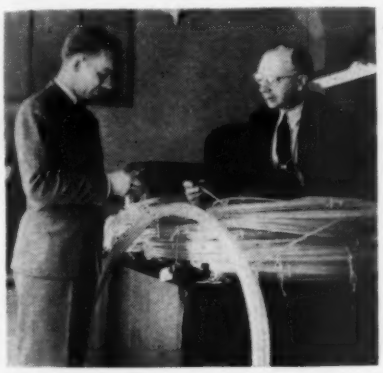
When writing mention WHOLESALER'S SALESMAN

News

(Continued from page 36)

internal support permits this to be done easily.

There is a growing demand for the product as its possibilities become more widely known. If skepticism is encountered as to its adaptability to certain requirements, a favorite method of the salesman is to leave some lengths for test. Usually it "stays put" and he picks up the order.



Inside as well as outside salesmen demonstrate and sell plastic tubing at GE Supply, Portland, Ore. E. J. Oliver, right, counter salesman, explains the new product to S. A. Jameson of the Starr Fruit Products Co.

Wholesalers Meet With RCA Victor Officials

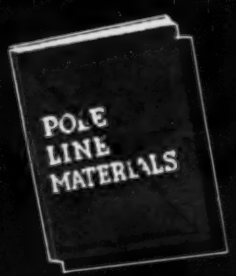
Mutual problems and current thinking on post-war distribution was discussed by officials of the RCA Victor Division of the Radio Corporation of America before 200 RCA Victor distributors and their executive personnel in New York last month.

H. C. Bonfig, general sales manager, emphasized, as did other speakers, that the company's principal concern at the moment is to do everything possible to hasten the eventual Victory. He said that, in the meantime, this meeting and the three others that were scheduled for other principal cities, had been called to review mutual problems, plans and policies which are likely to have a considerable bearing on post-war commercial activities.

The part wholesalers will play in the post-war distribution of RCA products was outlined by L. W. Teagarden, assistant general sales manager. Studies being made to obtain more reliable and useful information to use in the selling of the company's products were detailed by Vance C. Woodox, di-

In the **New**
OLIVER CATALOG

YOU CAN QUICKLY FIND THE EXACT ITEMS YOU WANT...



GET YOUR COPY *TODAY!*

If you have not yet obtained your copy of this valuable handbook, write your name and address on the margin of this sheet and mail today.

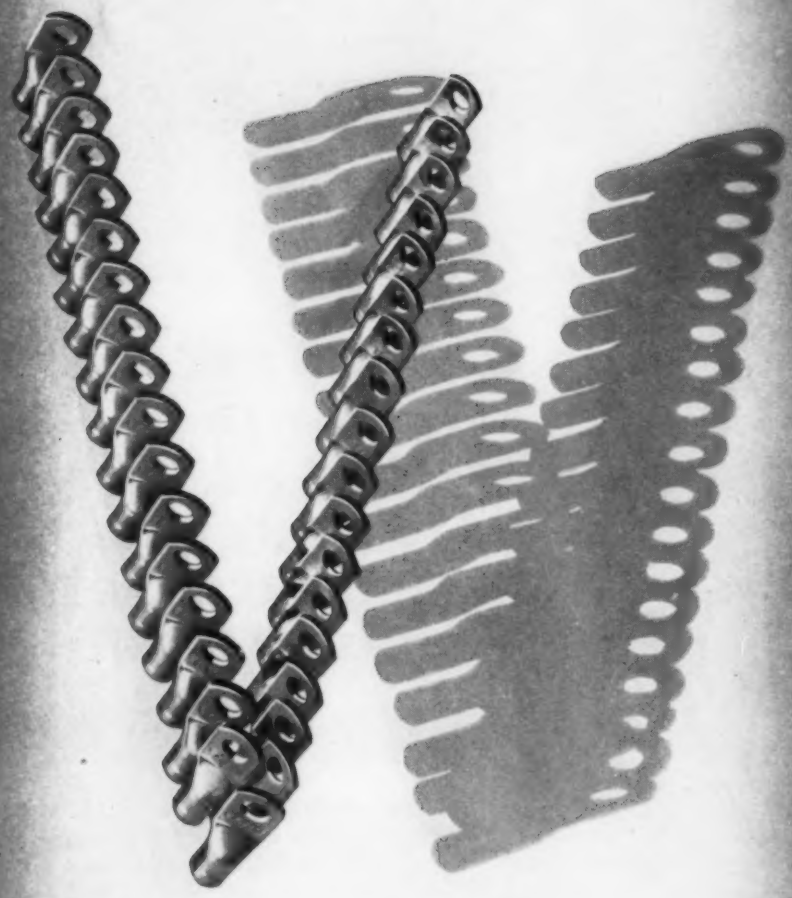
Sizes, dimensions and capacities of the items that comprise the complete line of Oliver Pole Line Hardware are conveniently presented in the 1944 Oliver Catalog.

Brand new from cover to cover—with many items never before listed—this volume is a valuable reference data book. With it, you have dimensional and other information needed to plan, specify and order pole line hardware items of latest design and modern construction.

OLIVER
IRON AND STEEL
Corporation

MAKERS OF POLE LINE HARDWARE SINCE 1894 ... PITTSBURGH, PA.

SOLDERING
LUGS



Backed by the 75 year experience and the resources of Calumet & Hecla, Wolverine quality is now controlled from ore straight through to finished product.

CALUMET AND HECLA CONSOLIDATED COPPER COMPANY
WOLVERINE TUBE DIVISION
Seamless Copper — Brass
1425 CENTRAL AVENUE DETROIT 9, MICHIGAN

rector of commercial research. Thomas F. Joyce, manager of the radio, phonograph and television department, described the company's advertising program.

Post-War Wiring Plan Announced By A/W

A national plan to aid builders of post-war homes in meeting the inevitable public demand for wiring systems that will more satisfactorily operate their electrical equipment, has been announced by the National Adequate Wiring Bureau.

The plan provides for the issuance of a certificate which will indicate the special provisions made in the wiring installation for operating electrical appliances and other electrical equipment. This certificate will be issued by local electrical groups under the authority of the National Bureau. The service will be available to builders through local adequate wiring bureaus, electrical associations and other groups.

New Appointments In GE Electronics Dept.

Dr. W. R. G. Baker, vice-president in charge of the electronics department of the General Electric Company at Schenectady, has announced the appointments of Arthur A. Brandt, George W. Henyan, and V. M. Lucas to new positions in the department.

Mr. Brandt has been made general sales manager, in which capacity he will be responsible for the coordination of the sales plans and policies of the several divisions, and the operations of the electronics department district offices.

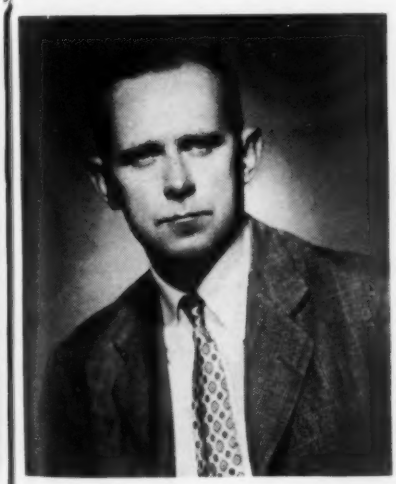
Arthur A. Brandt

Mr. Henyan has been made assistant to the vice-president of the department.

and Mr. Lucas has been appointed manager of the government division.

Mr. Brandt was formerly sales manager of the receiver division. Since joining the General Electric Company in 1927 he served as advertising manager for the General Electric radio, and in June, 1939, he was appointed manager of the merchandising service. In October, 1940, he was named sales manager for the GE radio and television line.

NEW GENERAL SALES manager for Cutler-Hammer, Inc., Milwaukee, P. S. Jones, will have direct supervision over all sales for the company through its 30 selling territories.



APPOINTMENT of John P. Waters as advertising manager of the lighting division of Sylvania Electric Products, Inc., was announced by Paul S. Ellison, director of Advertising and sales promotion for Sylvania. Mr. Waters was formerly with the Armstrong Cork Company.

Essential in War
Essential in Peace

Now, Double-purpose Thermador Fan-Type Portable Electric Heaters are providing comfort and convenience in the Army, the Navy and war plants throughout the country.

When Victory is Won, Thermador Heaters will heat cool corners, cool warm areas, dry clothes and hair in the homes of America.

Aggressive dealers are featuring flameless, fumeless Thermador Heaters now to improve working conditions in war plants. Available on priority orders in portable or built-in types for use on 115-volt A. C. service, 1650 watts capacity —or 230-volt A. C. in capacities up to 5000 watts.

Thermador also manufactures built-in Electric Heaters, Electric Ranges, Electric Water Heaters, and Radio Transformers.

Write today for Catalog WS-6

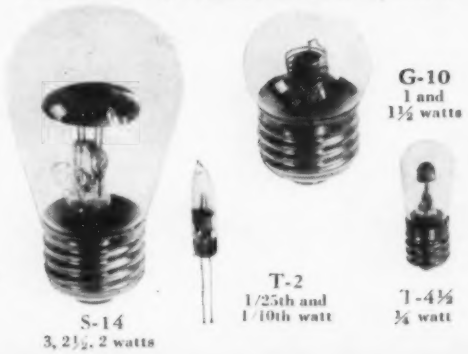
THERMADOR ELECTRICAL MFG. CO.

5119 S. Riverside Drive, Los Angeles 22, Calif.

"Seven Leagues Ahead"

GENERAL ELECTRIC NEON GLOW LAMPS for use as Pilots and Indicators

TYPICAL G-E NEON GLOW LAMPS



GENERAL ELECTRIC Neon Glow Lamps are ideal as pilots and indicators in industrial war plants because they require little power, can operate on standby battery or generator service, and stand up under shock or vibration. They produce a distinctive orange-red light and have a useful life of about 3000 hours.

They are used as pilot lights to show location of switches, sprinkler valves, alarm boxes, emergency doors and exits, and as indicators for fuses and for machines with small quiet motors which may run unnoticed. They may also be used as test lamps for electrical circuits, for synchronizing any two or more moving machines and checking speed. Maybe some vital equipment manufactured by your industrial customers can be made more efficient with the help of glow lamps. For a catalog sheet and full information, write the address below.

NELA SPECIALTY DIVISION, LAMP DEPARTMENT

GENERAL ELECTRIC

410 Eighth St., Hoboken, N. J.

HEY! PUT IN A NEW FUSE. THIS TIME MAKE IT A ROYAL!

ROYAL Crystal Glass Top Plug FUSES guarantee SAFETY and VISIBILITY. They're the best to buy . . . to use . . . to sell. So, remember ROYAL — a good name to "go buy".

ROYAL ELECTRIC COMPANY, INC.

95 GRAND AVENUE • PAWTUCKET, R. I.

Wire • Plug Fuses • Cartridge Fuses • Cord Assemblies • Christmas Outfits

SALES MANAGER for the appliance division of GE's appliance and merchandising division at Bridgeport, Conn., is the new title for Alfred C. Sanger. He was previously manager of GE's traffic appliance divisions. He has been with GE since 1930.

Accurate Mfg. Co. Appoints Landers

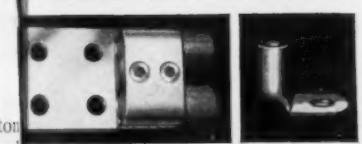
Mr. L. Morris Landers, 308 Walton Bldg., Atlanta, Ga., has been assigned as representative in the Southeast for the Accurate Manufacturing Company of Garfield, N. J. Mr. Landers will cover the states of Georgia, Alabama, Florida, North and South Carolina and Tennessee.

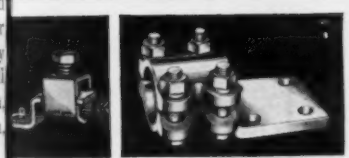
APPOINTMENT of H. D. Siler, above, as manager of the New York Office of the Pittsburgh Reflector Company was announced by Charles H. Goddard, vice-president and director of sales for the company. Mr. Siler was formerly an illuminating engineer in the New York office.

To get the RIGHT lug at every point—

—select your terminals from the COMPLETE line"

Look in the Penn-Union Catalog all of the good types: Solderless lugs to grip the conductor by Bolt, Screw, Post-and-Nut, or Multi-slit Tapered Sleeve . . . Soldering lugs, Cast and Stamped, in wide variety . . . Here are just a few:





You will also find the most complete line of Cable Taps, Tee Connectors . . . Straight, Parallel, Elbow and Cross Connectors . . . Bus Supports, Clamps, Spacers . . . Grounding Clamps, Service Connectors.

Penn-Union fittings are preferred because every one is mechanically and electrically dependable. They are the first choice of leading utilities, industrials, electrical manufacturers, contractors. *Write for the Penn-Union Catalog.*

PENN-UNION ELECTRIC CORPORATION
ERIE, PA. *Sold by Leading Jobbers*

PENN-UNION
Conductor Fittings

Reeves Appoints Subcontractors

L. D. Ely, executive of Reeves Sound Laboratories, announced recently that the Signal Corps of the U. S. Army had authorized that company, a prime contractor for the production of high-frequency crystals for the Airborne Service, to appoint the following subcontractors: American Jewels Corporation, Attleboro, Mass.; Crystal Research Laboratories, Inc., Hartford, Conn.; General Crystal Corporation, Schenectady, N. Y.; Henry Manufacturing Co., West Los Angeles, Calif.; P. B. Hoffman Co., Carlisle, Tenn.; John Meck Industries, Plymouth, Indiana.

New Canadian Wholesaler Organized

Bell Electric Supplies, Ltd., a new company which will engage in business as wholesale and retail distributors and electrical manufacturers, has been incorporated in Victoria, British Columbia. It is reported to have an authorized capital of $10,000.

NOT HEAVILY LOADED under present conditions, but capable of handling 15 reels of cable, this cable rack is one of two in the basement of the Graybar warehouse in Salt Lake City. The two are on opposite ends of a clear, central measuring aisle approximately 100 ft. long and with painted scale on the floor to facilitate measuring. The slanting beams are 6 by 6's on the edges of which are hooks to take the mounting rods. The racks are served by hand chain hoists.

HEXACON ELECTRIC SOLDERING IRONS

Expressly designed for the multitude of complex and tedious soldering requirements, the HEXACON Hatchet Type soldering iron has found extensive use because of its extreme ease of manipulation.

Perfect balancing—permits long operation with minimum of fatigue. As with all HEXACON units, the Hatchet type is ruggedly constructed, and is tested for twice the intensity required by the Underwriters' Laboratories, assuring greater-than-average service life with economy and efficiency. Operates on AC or DC of any cycle, and is available in voltage ranges from 32 to 250 volts. Equipped with replaceable elements, and all other features of HEXACON Plug Tip Irons.

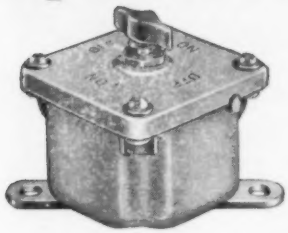
WRITE FOR LITERATURE

Descriptive bulletins, describing the complete line of HEXACON electric soldering irons, will be sent on request.

HEXACON ELECTRIC COMPANY
159 W. CLAY AVE., ROSELLE PARK, N. J.

HEXACON

Spero *can make prompt delivery of the following 9-S Navy and Marine Fittings*



9-S BASIC BOXES

5333—3" Basic Steel Enclosure (WT)
5334—4" Basic Steel Enclosure (WT)
5335—5" Basic Steel Enclosure (WT)

9-S DEVICES AND SWITCHES

4234-L G-S(W.T.)
4260-L E-S(W.T.)
4262-L F-S(N.W.T.)
4264-L F-S(W.T.)
4264-L G-S(W.T.)
4264-L F-IS(W.T.)
4264-L G-IS(W.T.)
4343-L H-S(N.W.T.)
4477-L V-111(W.T.)
4496-L C-S(W.T.)
4563-L M-S(N.W.T.)
4563-L N-S(N.W.T.)
4563-L M-IS (N.W.T.)
4563-L N-IS (N.W.T.)
4718-L CC-S(W.T.)
4718-L DD-S(N.W.T.)
4719-L FF-S(W.T.)
4719-L GG-S(N.W.T.)
4720-L TT-S(W.T.)
4721-L MM-S(W.T.)
4777-L V-IS(W.T.)
4816-L FFF-IS(W.T.)
4816-L FFFS(W.T.)
4873-L GG-S(W.T.)
4914-L MI-S(W.T.)
4923-L IX-S(W.T.)
5174-L V-S(W.T.)

9-S FIXTURES

4341-L V-111-S(N.W.T.)
4341-L IX-S(N.W.T.)
4341-L V-111-A-S (N.W.T.)
4535-L J-S(White,W.T.)
4535-L JR-S(Red,W.T.)
4535-L JG-S(White,W.T.)
4535-L JRG-S(Red,W.T.)
4536-L J-S(White,W.T.)
4536-L JR-S(Red,W.T.)
4537-L L-S(White,W.T.)
4537-L LR-S(Red,W.T.)
4537-L LGS-S(White W.T.)
4537-L LRGS-S(Red,W.T.)
5121-L 111-ES (White, W.T.)
5122-L IV-ES(White,W.T.)
5163-L LL-S(White,N.W.T.)
5163-L LLR-S(Red,N.W.T.)
5163-L LLGS-S(Red,N.W.T.)
5163-L LLRGS-S(Red,(N.W.T.)
5173-L JS-S(White,W.T.)
5173-L JRS-S(Red,W.T.)
5173-L JGS-S(White,W.T.)
5173-L JRGS-S(Red,W.T.)
5186-L LS-S(White,W.T.)
5186-L LRS-S(Red,W.T.)
5186-L LGS-S(White,W.T.)
5186-L LRGS-S(Red,W.T.)
5262-L (W.T.)

N. Y. Office: 33 West 42nd St., N. Y. C.

THE SPERO ELECTRIC CORPORATION
18222 LANKEN AVE. ★ CLEVELAND, OHIO

PAN-AMERICAN SAFETY SUPPORTED BY THORDARSON QUALITY

Coordination of effort in building airplanes . . . in flying them over the skyways, and in landing them at the airports of the world is the secret of the fine record for safe flights made by PAN-AMERICAN airways.

By the same token, the use of only the finest quality parts in building every plane and in constructing the mechanisms which direct its comings and goings, is another very important factor in promulgating complete safety.

That is why Thordarson transformers were selected by PAN-AMERICAN airways for important uses in the planes themselves as well as for use in control tower operations, where dependability and quality of material are of such great importance.

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ELECTRIC MFG. COMPANY
500 WEST HURON ST., CHICAGO, ILL.

ARMY E NAVY

Transformer Specialists Since 1895
. . ORIGINATORS OF TRU-FIDELITY AMPLIFIERS

Graybar Appoints Operating Managers

Norman M. White, formerly service manager for Graybar Electric Company in St. Louis, has been appointed district operating manager at Graybar-Dallas. At the same time, Mr. J. R. Ernest, who has been assistant to the general service manager, has been assigned to St. Louis to be district operating manager, assuming the duties formerly performed there by Mr. White.

NEW WESCO APPOINTEES. David M. Salsbury, top, has been made general manager of Westinghouse Electric and Supply Company. William M. Jewell, lower photo, is new North Pacific district manager at Seattle. Complete story of appointments was published in September issue of WHOLESALER'S SALESMAN.

MINERALLAC

New Practical Unit to Cut Installation Time

● The "Messenger Hanger" and the "Messenger Strap" fill the need for an economical, practical, time-saving unit for use with the new messenger cable type of installation. Mechanically strong, durable, lightweight. They save considerable material and are easily and quickly installed. Our bulletin gives full and complete details—send for it.

See your Jobber.

"Messenger Hanger" for Conduit and Cable Strong, made of Cadmium Plated Steel or Everdur. Top loop of hanger grips messenger cable to permit conduit to be put in place without falling off.

"Messenger Strap" for Outlet Boxes Of Cadmium Plated Steel or Everdur. For messenger cable installaton to be used with Minerallac "Messenger Hanger." Fits all standard outlet boxes and ¾" messenger cable.

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New York City Office 50 CHURCH ST.

THEODORE B. DALLY

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PAINE CONDUIT CLAMP

Correct size Stove Bolts furnished FREE with each clamp.

All clamps are rust proofed and are designed to hold porcelain bushings, thin wall or rigid conduit, also armored cable.

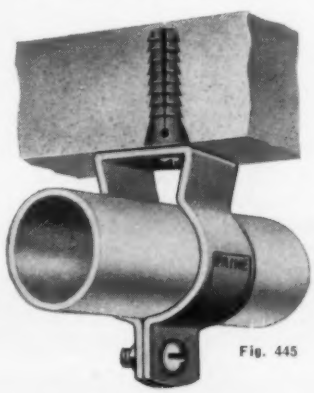

Fig. 445

Write for Complete Catalog of Paine Products.

THE PAINE CO.

2952 Carroll Ave. Chicago 12, Ill.

Offices in Principal Cities

PAINE FASTENING and HANGING DEVICES

TO SUPERVISE all RCA selling activities. L. W. Teagarden has been appointed an assistant general sales manager of the RCA Victor Division. Henry C. Bonfig, general sales manager, made the announcement.

DISTINGUISHED Flying Cross Recipient in Middle East area is 1st Lieut. Walter M. Schwartz, Jr., who is on leave from his position as president of Proctor Electric Co., Philadelphia. Lieutenant Schwartz fought in Africa with the RFC, later transferred to the U. S. Army Air Forces.

ACF "A Quality Line at Competitive Prices"

A full line of quality conduit fittings and connectors. To assure your contractor and industrial customers of full satisfaction, sell them the A.C.F. line.

Illustrated is a ⅜" Non - Metallic Sheathed Cable Connector.

Write for descriptive bulletins and prices.

ATLANTIC CONDUIT FITTINGS CO.

589 Atlantic Avenue • Boston, Mass.

Keeping Cool -in Hot Spots

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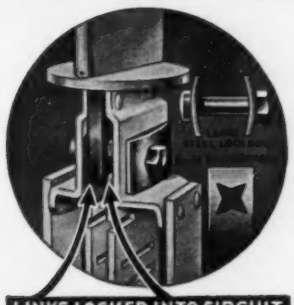

LINKS LOCKED IN TO CIRCUIT

NON-HEATING CONTACTS

Keep Motors Humming

100% Quality

APPROVED BY UNDERWRITERS

Mfgr's. Agents Territory Open

WARE BROTHERS

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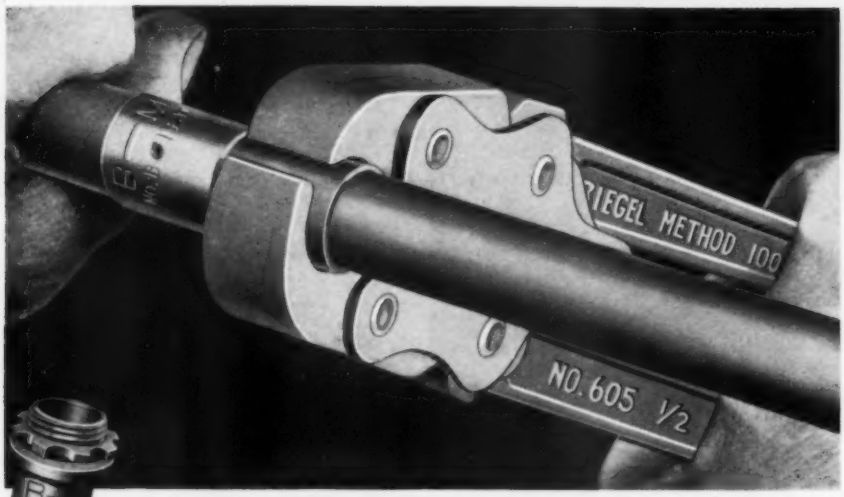
WARE *Renewable* HI-LAG FUSES



E·M·T CONNECTIONS IN A FEW SECONDS!

With B. M. Fittings

TWO QUICK SQUEEZES give you Finer, Faster Conduit Connections. B-M Fittings do away with the twisting, turning and tightening of nuts and save you valuable time and materials. Then too, they are stronger, neater and much easier to work with in tight places. Start using B-M Fittings today. Have more satisfied customers—more profits from each job!

(All B-M Fittings carry the Underwriters Seal of Approval)

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Clayton Mark & Co., Evanston, Ill.
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Prompt Deliveries on Properly Rated Orders

BM BRIEGEL METHOD TOOL CO. • Galva, Ill.

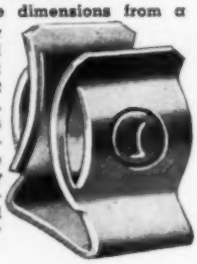
ILSCO
Electrical Connectors

THE ILSCO LINE HAS EVERYTHING

Send for the ILSCO Catalog and see what a diversified line of practical products Ilsco makes.

ILSCO FUSE CLIPS

Stamped to accurate dimensions from a special phosphor bronze of long-lived spring temper that maintains constant pressure on fuses. This special bronze is of much higher conductivity than Grade A but with practically the same spring temper . . . as proved by many tests by leading users.



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ILSCO SOLDERLESS SERVICE CONNECTORS for emergency of permanent soldering connections.

MAIL THIS COUPON TODAY

Please send us sample of .....
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NALCO *Infra-Red Ray*

LAMPS

(Carbon Filament)

For Radiant Energy

—Baking and Drying

Radiant Energy Drying, baking, heating and dehydrating is the modern method—cuts drying cost, saves time, uses minimum space, produces uniform results.

You can sell Nalco Dritherm lamps for efficient results . . . available in Inside-Silvered (self-reflecting) or clear glass types.

Learn all of the sales advantages in featuring the Nalco Carbon Filament Lamps for the Infra-Red process—Write for a free copy of "Drying Problems Made Easy" today.

NALCO INFRA-RED DRITHERM

NORTH AMERICAN ELECTRIC LAMP CO.
1034 Tyler Street
ST. LOUIS 6, MISSOURI

Association News

DETROIT—The Electrical Association of Detroit, Michigan, reports that plans are being made for the 1943 edition of "Who's Who in Electrical Detroit." This book will include an alphabetical listing of all personal members, company listing by classification, special listings for participating members, product classified list, etc.

Some of the ideas proposed for consideration by the Post War Activities Committee at a recent meeting are:

1. Post war dumping of surplus materials.
2. A re-inspection plan by the Department of Electrical Inspectors to (a) Create electrical safety for the public; (b) Create work for electrical contractors after the war, and so help the general economy.
3. Means of assisting electrical men who come back to find work in the electrical industry.
4. Industrial and commercial rehabilitation.
5. Further assistance to the adequate wiring program.
6. Assistance to the appliance and fixture people.
7. Doing a real job of advertising and public relations, carrying on the Association's slogan "Keep People Electrically Conscious."
8. Make surveys for the good of the industry and for individual companies in the industry.
9. Create a speakers bureau.
10. Plan on holding more meetings —one a month throughout the year is not too many.

In this month's "Electrogram," the Association includes a chart, small enough in size for any one of its members to carry in pocket, showing the organization setup of WPB as of recent date.

RICHMOND—Resuming its monthly meetings for the Fall season, the Electrical League of Richmond met at the Hotel John Marshall in Richmond,

A Good Line To Tie To....

ALLEN TECHNICAL SERVICE—supplementing our well-known line of fluxes and solders helps keep your customers satisfied, brings NEW trade. Send us the problem.

L. B. ALLEN CO., INC.
6701 Bryn Mawr Ave. Chicago

MORE SALES WITH TRICO "POWDER-PACKED" RENEWABLE FUSES

HERE'S WHY:
- YOU HAVE SOMETHING BETTER TO OFFER. A custom built powder-packed renewal element instead of an ordinary fuse strip.
- THE ELEMENT IS NOT INTERCHANGEABLE with "Bare Links"—you get all repeat business.
- CUSTOMERS GET 3 TIMES THE SERVICE.
- NO PRICE COMPETITION—Trico quality sells itself—price is no issue.
- SOLD ONLY THRU WHOLESALERS.
- THEY'RE NATIONALLY ADVERTISED.
- MEET FEDERAL SPECIFICATIONS WF-805.

SELL TRICO

TRICO FUSE MFG. CO., Milwaukee, Wis.
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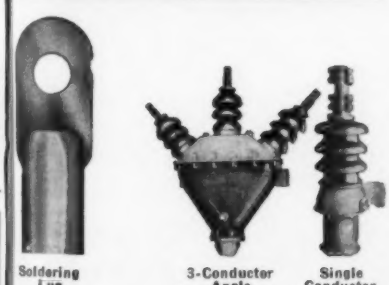
ELECTRICAL SPECIALTIES FOR HEAVY INDUSTRIAL SERVICE FROM STOCK

RMC



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14260 Birwood Avenue • Detroit, Mich.

Va. Captain John Carnaghan was guest speaker. President A. H. Hermann was in charge of the meeting and Boyd A. Propert was chairman of the program committee.

MORE FACTS ON PRODUCTS

Fluorescent Fixture—Four-page folder, published by the Fostoria Pressed Steel Corporation, Fostoria, Ohio, describes the operating characteristics of the company's model MF-240-N fluorescent fixture, and includes illustrations of the various methods of mounting.

When writing mention WHOLESALER'S SALESMAN

Insulating Materials—Sixty-page catalog, covering the line of insulating materials as manufactured by General Electric's appliance and merchandise department, lists and describes many items including varnished cloths, varnishes, glyptals, tapes, cords, cotton sleeving, varnished tubings, mica, wedges, soldering materials, cements and compounds.

When writing mention WHOLESALER'S SALESMAN

Signalling Devices and Systems—Revised bulletin 480, published by Edwards and Company, Norwalk, Conn., illustrates and describes the company's line of marine signalling devices and systems. Included are "F" circuit magazine fire alarm annunciators, lube oil annunciators, bells, pushbuttons, horns, etc.

When writing mention WHOLESALER'S SALESMAN

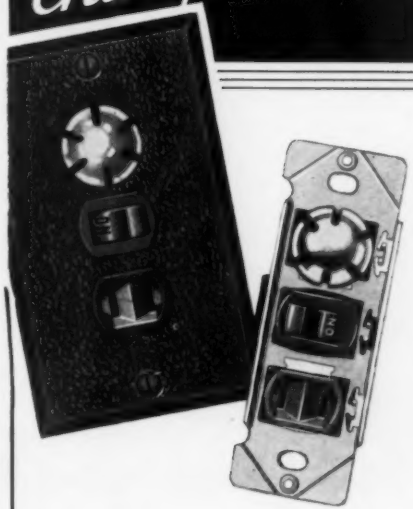
Wire—Bulletin No. 210, recently published by the Hazard Insulated Wire Works Division of the Okonite Company, Wilkes-Barre, Pa., describes the company's Hazapak rubberless building wire—tells what it is, where it can be used, and in what sizes and voltages it is available.

TORK

TURN ANYTHING ELECTRICAL ON & OFF REGULARLY

The TORK CLOCK CO., Inc.
MOUNT VERNON, NEW YORK

P&S DESPARD Inter-changeability



The interchangeable features of the P&S-Despard Line mean more than ever in these days of limited stocks.

Just the thing for that next job—T-rated switches, double-grip outlets, pilots and accessories.

Keep your P&S catalog handy—Send for a new one if yours is out of date.

PASS & SEYMOUR, INC.
SYRACUSE, N.Y.

Lower the Cost of LOCALIZED LIGHTING . . !

In industrial lighting, installation costs can be greatly reduced by running a branch lighting circuit off the power line, using a Dongan Transformer to step down the voltage. Thousands of Dongan Transformers are performing this vital function in war industries throughout the nation. Circuit breakers optional.

WRITE

for booklet on transformer connections.

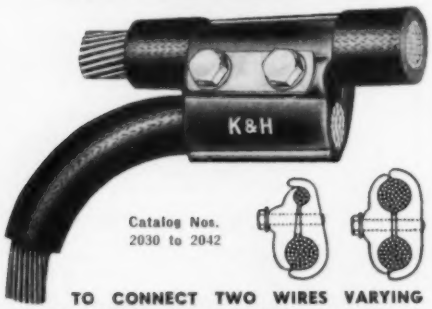
DONGAN ELECTRIC MFG. CO.
2989 Franklin St. Detroit, Mich.

"The Dongan Line Since 1909"

DONGAN TRANSFORMERS

K&H Sellerbus Terminal LUGS — A SIZE and TYPE for every need! — K&H Sellerbus CONNECTORS

UNIVERSAL PARALLEL TAP CONNECTOR



Catalog Nos. 2030 to 2042

TO CONNECT TWO WIRES VARYING EITHER GREATLY OR SLIGHTLY IN SIZE, OR TWO OF THE SAME SIZE

The tightening bolts exert an even pressure on both wires regardless of size. The clamping surface is large and covers a contact area several times greater than the cross-section area of the wires themselves. Locking feature insures a permanent connection.

★ **WRITE FOR BULLETIN 15-A** ★

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